

# MODERN



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# LITHOGRAPHY



**Fast Orange 247P**

## Senelith Inks

were the first lithographic inks  
made from dyestuffs  
treated with sodium tungstate  
for better sunfastness  
and are still leading  
with their outstanding resistance properties

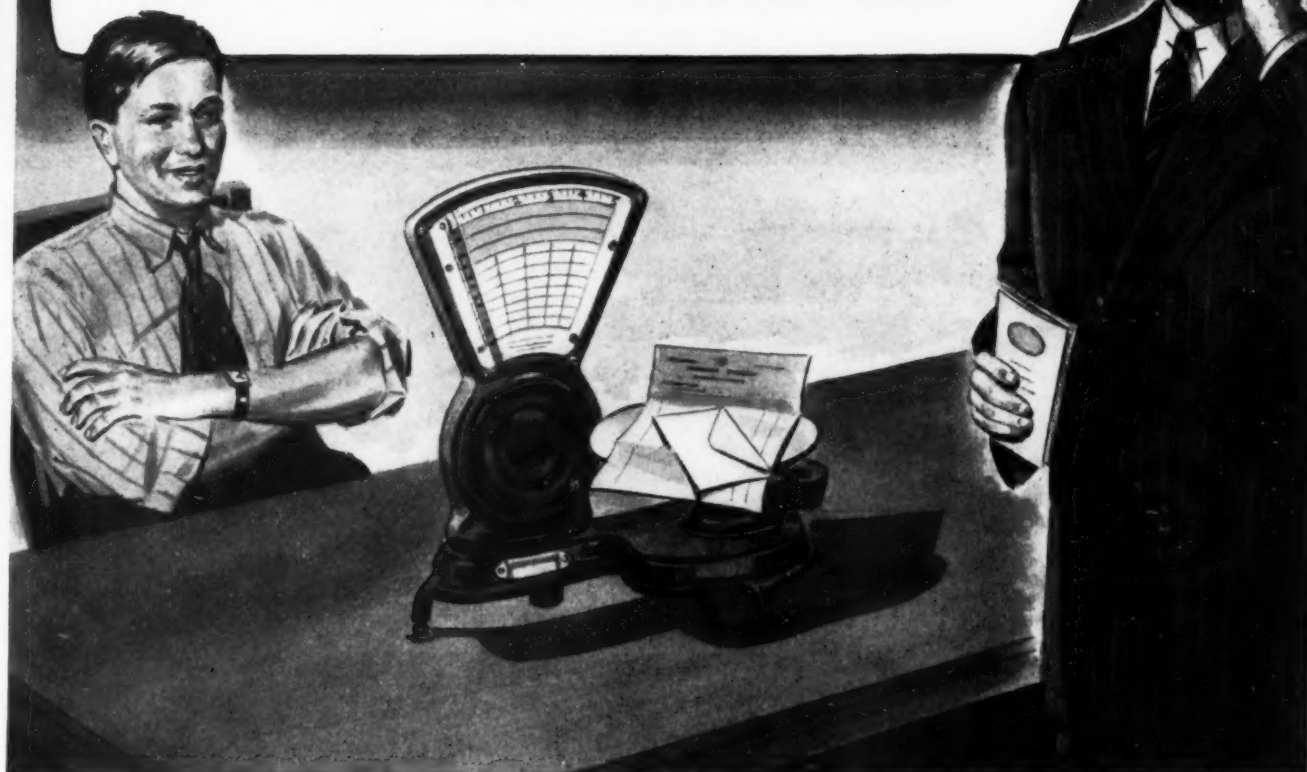
**The Senefelder Company, Inc.**

*"Everything for Lithography"*

**32-34 Greene Street**

**New York, N. Y.**

**THIS ENCLOSURE ON HOW TO  
SAVE FOOD IS A GOOD IDEA—IF IT  
WON'T RAISE OUR POSTAGE COSTS**



**LITHOGRAPHER:** "It won't . . . if we print it on a lightweight paper. Besides, it will save the expense of a separate mailing."

**CUSTOMER:** "Good! That will save clogging the mails too. But how about show through on a lightweight paper?"

**LITHOGRAPHER:** "Don't worry about that. We'll use Hammermill Opaque. It's light in weight, but we can print both sides without objectionable show through. So you cut costs on postage and paper."

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**LITHOGRAPHER:** "I can promise you a top-notch job. Sharp halftones, brilliant color, good clean type matter. We never have any press trouble with Hammermill Opaque."

**P.S. HE GOT THE JOB!** Get more jobs for *your* shop by showing customers the splendid work you can deliver on postage-saving Hammermill Opaque. Mail coupon for the latest collection of commercial specimens. Set includes a map, catalog, broadside—9 pieces in all.



# HAMMERMILL OPAQUE

MADE BY THE MAKERS OF HAMMERMILL BOND

Hammermill Paper Company, Erie, Pa.

Please send me, free, the set of commercial specimens and sample book of Hammermill Opaque.

Name .....

Position .....

(Please attach to your business letterhead) ML-AP



# Sure, PAPER win the war!

# is needed to

More than 149 million War Bonds, and 3 billion War Stamps have been sold—all printed on *paper*.

144 billion ration stamps have been issued—*paper* stamps.

It takes about 100 tons of *paper* to launch a new battleship. The paper required to design a new warplane weighs as much as the metal required to build it.

No doubt about it, paper is in there fighting in this war.

But over and beyond these huge tonnage jobs, completely new papers have been developed to step into the shoes of scarce materials. They are replacing tin, steel, mica, cloth, rubber and leather. Wood fiber products are being pressed into parts for planes—even for machinery. And at the fighting fronts, special papers guard rations, and protect precious drugs needed in advanced dressing stations.

Amazing changes are taking place in the paper field. We know a lot about them because we're making paper at the rate of a *thousand miles a day*. We're learning scores of new needs for paper products and ever better ways to meet them. As these new worlds open up, we're constantly exploring them.

All our experience and all our facilities are concentrated on helping the war effort. But when materials are again available we will be able to supply many new and unusual papers to meet your needs.

In the meantime, Oxford merchants and Oxford salesmen are at your service.

## OXFORD PAPER COMPANY

230 Park Avenue, New York, N. Y.  
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Western Sales Office:  
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# MODERN LITHOGRAPHY

PUBLISHED IN THE INTERESTS OF LITHOGRAPHERS EVERYWHERE



## THE COVER

Our cover photograph shows a representative group of the 90 selected "Books by Offset" just announced. Complete story and list of selected books begins on page 18.

April, 1943

Volume 11, No. 4

THE PROBLEM OF MANPOWER FOR lithographic plants is so complex and so involved with essentiality that it's a tough subject to tackle. However we present this month a concise piece on the use of replacement schedules which may be of some help. (Page 16)

There is so much going on in the trade that it would take a full sized newspaper to cover it all. That's why we have enlarged our news section this month to give all the news possible. (Starts on page 35)



Editor-In-Chief  
WAYNE E. DORLAND

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Advertising Manager  
THOMAS MORGAN

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## MODERN LITHOGRAPHY

Reg. U. S. Pat. Office

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APRIL 1943

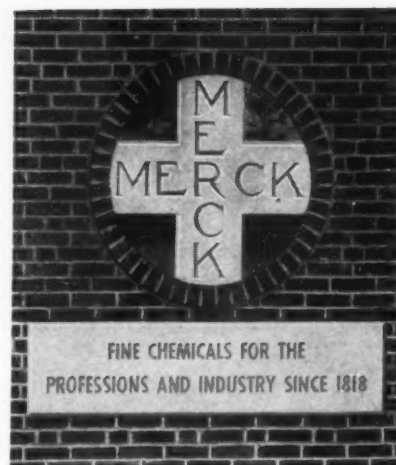
5



Chemicals play an important part in quality jobs, trouble-free runs—and profits. For, unless your chemicals are *right* trouble may develop—and trouble means loss of profits.

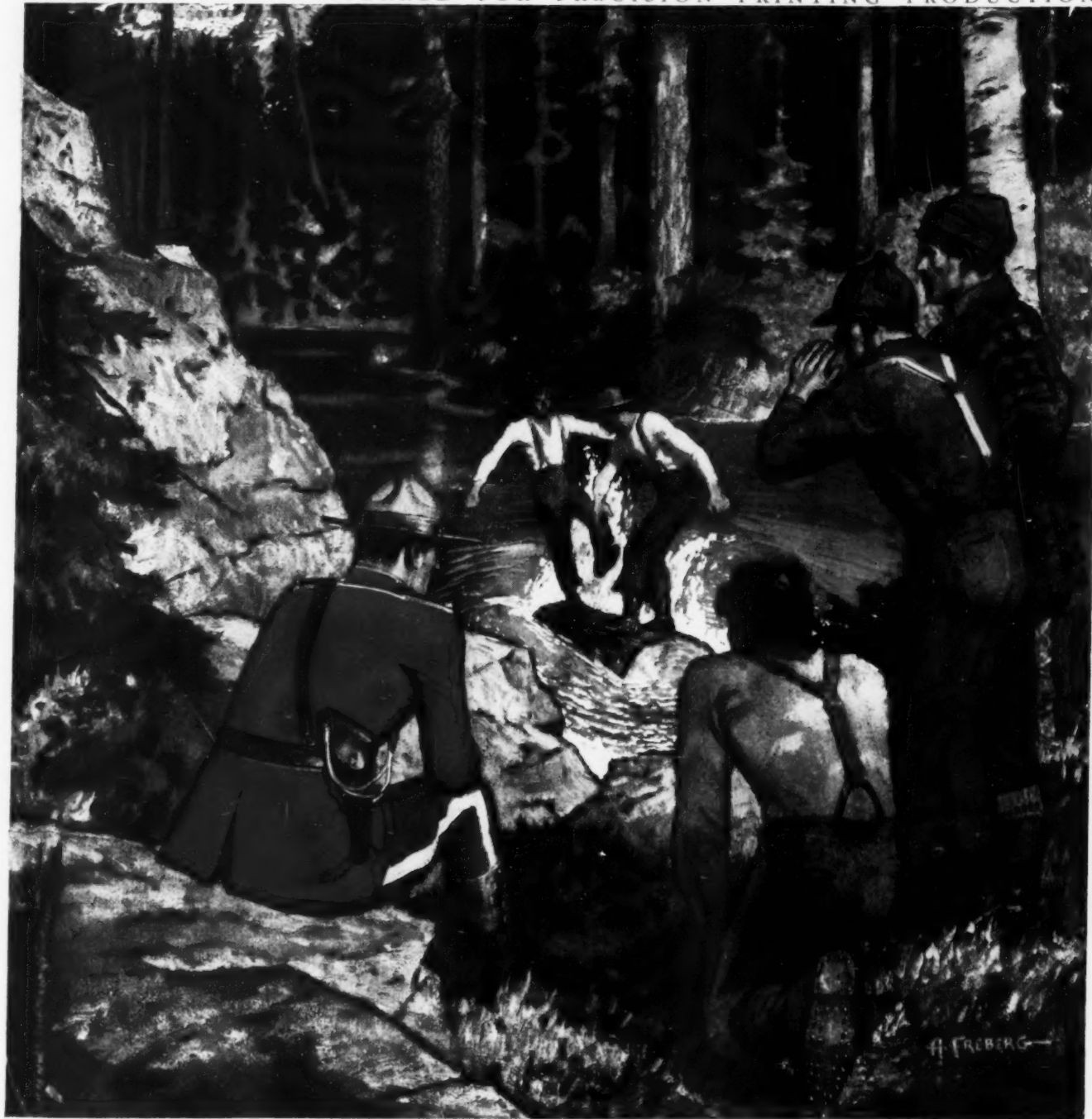
Merck Chemicals for the Graphic Arts are produced with the same degree of skill and craftsmanship that go into your finest jobs. You can depend upon them to give you the same results—from the same procedures—every time.

*Catalog Mailed on Request*



**MERCK & CO., Inc.** *Manufacturing Chemists* **RAHWAY, N. J.**  
 New York, N. Y. • Philadelphia, Pa. • St. Louis, Mo. • Elkton, Va. • Chicago, Ill. • Los Angeles, Cal.  
*In Canada: MERCK & CO. Limited, Montreal and Toronto*

TRADITIONALLY PREFERRED FOR PRECISION PRINTING PRODUCTION



"SALESMEN-IN-PRINT" are even more necessary today than in Peacetime. The call to Colors has necessarily depleted the ranks of business to help fill the ranks for Uncle Sam. Consequently constructive direct adver-

tising offers unlimited opportunities for the advertiser, printer and lithographer. Good papers like those made at Northwest will add greatly to the effectiveness of such usage, and thus aid in bringing Victory nearer.

VICTORY *War Quality* PAPERS

THE NORTHWEST PAPER COMPANY · CLOQUET, MINNESOTA

APRIL 1943



# AT YOUR FINGERTIPS . . .

**E**VENTS are moving faster today in the lithographic industry than at any other time in history. Conditions change overnight, and to keep abreast lithographers vitally need latest complete information at their fingertips at all times.

How does the industry stand in the manpower situation? How essential are plants doing a percentage of war work? How do the latest directives from OPA, WPB, WMC, and the many other regulating government agencies, affect your plant? How do the income tax penalties work in connection with wage ceiling violations? Which of your products are under price ceilings?

The answers to these and many other present-day problems can be at your fingertips if you hold membership in one of the trade associations in the lithographic industry.

Lithographic executives who are concerned with problems of production and management do not always have time to wade through the great quantities of important material emanating from the Capital.

It requires clear thinking, and up-to-the-minute knowledge to keep out of trouble in the complex wartime situation of today. It is the purpose of your trade association to study, digest, and explain these complex factors to the trade, and to place the answers to your problems at your fingertips.

Members of the National Association of Photo-Lithographers regularly receive helpful NAPL Bul-

**MODERN LITHOGRAPHY**

letins. The information is prepared for ring-binder filing for ready reference.

The NAPL sifts out the avalanche of orders issuing from Washington and comments on those affecting our members. Much of the Bulletin is devoted to information on WPB, OPA, ODT, Manpower, Labor, and Wages and Hours. Occasional data sheets are issued on Trade Practices, Costs and Estimating, Selling, Production Problems, Copyrights, and Management.

The NAPL Bulletins are not just news, but rather down-to-earth information to help our members with their current problems.

NATIONAL ASSOCIATION OF PHOTO-LITHOGRAPHERS  
1776 Broadway New York

YOU NEED THE HELP OF YOUR TRADE ASSOCIATION

MAIL THIS COUPON  
FOR COMPLETE  
INFORMATION

National Association of Photo-Lithographers  
1776 Broadway, New York, N. Y.

Dear Mr. Soderstrom: I am interested in knowing  
more about your work. Our press equipment is:

No.	Size	Make
.....	.....	.....
.....	.....	.....
.....	.....	.....
.....	.....	.....

Firm Name .....

Executive .....

Address .....

City and State .....

# No Muzzle for Advertising



The Office of War Information, applauding the nation's advertisers for their steady support of the many campaigns necessitated by war, asks even greater support during the days ahead.

O.K. *It will be done* . . . in spite of WPB limitations on paper . . . in spite of WPB restrictions of photo-engravers' copper and zinc . . . in spite of the fact that many national magazines have no more space to sell.

Advertisers don't muzzle easily . . . and the creators of advertising

are resourceful. They'll "get the message through!"

Printers and lithographers will be busy this year, for the upsurge in direct and direct-mail advertising has already begun. And in this upsurge, Mead, Dill & Collins, and Wheelwright papers will continue to carry the impact of patriotic promotion to those on the home front. . . . Rely on this. Rely on "Paper Makers to America" and the nation-wide network of informed Mead merchants to help you help OWI.

*Offering a completely diversified line of papers in colors, substances, and surfaces for every printed use, including such famous grades as Mead Bond, Moistrite Bond and Offset; Process Plate; Wheelwright Bristols and Indexes; D & C Black & White, Printflex, Canterbury Text, and De & Se Tints.*



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**THE MEAD SALES COMPANY**  
DILL & COLLINS INC.  
WHEELWRIGHT PAPERS, INC.

230 PARK AVENUE, NEW YORK CITY

New York  
Chicago

Philadelphia  
Dayton

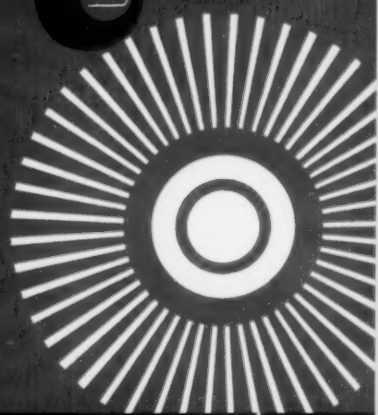
Boston  
Kingsport

## THE MEAD CORPORATION

U. S. WAR SAVINGS BONDS: *The best buy in paper today!*



# mileage



**THE FUCHS & LANG MFG. COMPANY**

(ESTABLISHED 1870) + + DIVISION • GENERAL PRINTING INK CORPORATION

**100 SIXTH AVENUE • NEW YORK**

BOSTON • CHICAGO • CINCINNATI • CLEVELAND • PHILADELPHIA • ST. LOUIS • SAN FRANCISCO • FORT WORTH • LOS ANGELES • TORONTO, CANADA

# Lestoil

**NON - INFLAMMABLE**

**NON - TOXIC**

*The Ideal Inexpensive Cleanser for Dampening Rollers*

Quickly dissolves the ink which the dampening rollers have accumulated. Requires less scrubbing and scraping of the fabric and consequently prolongs its life. » Reduces fire hazards. If a lighted match were thrown into Lestoil, the flame would go out. Its use may enable you to secure a reduction in your insurance rates. » Harmless to those coming in contact with it. There is no possibility of it causing dermatitis or similar skin irritations. » PH control tests show it is practically neutral, and if any residue is left in the dampening rollers, it will not have a detrimental effect on the press plate. » Very effective for washing sponges. It rapidly dissolves the grease and slime, leaving the sponge soft and fluffy, the same as when it was new. » Mixed with water, the solution costs but a few cents per gallon. » A liberal sample will be supplied on request.

**THE FUCHS & LANG MFG. COMPANY**

(ESTABLISHED 1870)

DIVISION - GENERAL PRINTING INK CORPORATION

**100 SIXTH AVENUE • NEW YORK**

**Boston Chicago Cincinnati Cleveland Philadelphia St. Louis**  
**San Francisco Fort Worth Los Angeles Toronto, Canada**

# Design

BEFORE LETTERHEAD CLINIC ANALYSIS →



for  
profitable  
letterhead  
selling!

← AFTER LETTERHEAD CLINIC ANALYSIS



The *free* business-building plan offered by The Letterhead Clinic is *not* just a promotional stunt to sell paper. It's a down-to-earth and complete but simple plan that will actually help you get letterhead business on a profitable basis. As a printer recently wrote:

*"I wish for you to know that your Letterhead Clinic is of more help to me than anything I have experienced heretofore. Your frank criticism and very helpful suggestions for the correction of faults in design cannot be surpassed."*

The "before" and "after" illustrations above dramatically demonstrate how The Clinic's scientific analysis service enables you to effect design changes which win customer approval . . . and, most important, profitable orders! • Don't miss out on this opportunity. The Clinic's business-building plan is *free*! Read all about it in the *free* 24-page book that the convenient coupon will bring to you by return mail.

## Permanized Papers



THE LETTERHEAD CLINIC  
Whiting-Plover Paper Company  
14 Whiting Road, Stevens Point, Wisconsin



Send your *free* book that will tell me how The Letterhead Clinic's *free* business-building plan can help me obtain letterhead business on a profitable basis.

Name \_\_\_\_\_

Position \_\_\_\_\_

Please attach to your BUSINESS letterhead. This offer restricted to Printers in the U. S. A.





# ***PATTERN*** in **PAPER**

War necessities outweigh all other considerations, and Champion's first job is to provide pulp and paper for the manufacture of products needed in winning the war. Yet paper is essential also to civilian industry and business, whose survival is vital to our future economy. Business must plan now for postwar activities, for Government says private enterprise is expected to supply jobs for all who want to work. The paper industry cooperates fully with government agencies in conserving critical materials and services. Within the limitations established, Champion strives to meet all demands that war is making upon its facilities; and in addition, supplies all it can to business to help maintain the sound American economy which the world finds so necessary.



**THE CHAMPION PAPER AND FIBRE CO., Hamilton, Ohio**

MILLS AT HAMILTON, OHIO . . . CANTON, N. C. . . . HOUSTON, TEXAS

*Manufacturers of Advertisers' and Publishers' Coated and Uncoated Papers, Cardboards, Bonds, Envelope and Tablet Writing . . . 2,000,000 Pounds a Day*

DISTRICT SALES OFFICES

NEW YORK · CHICAGO · PHILADELPHIA · CLEVELAND · BOSTON · ST. LOUIS · CINCINNATI · ATLANTA

# EDITORIALS

**T**HE number of men that can be kept in any given lithographic plant may depend on how much war work that plant is turning out. That's the way the problem of manpower in this industry appears to be shaping up at this time. With the War Manpower Commission and the Selective Service System deftly putting the squeeze on employees in "non-essential" jobs, the question of lithographic essentiality becomes basic. Even the Replacement Schedule plan, which provides an orderly system of replacing the potential 1-As in a firm, is prefaced by the reminder that it is designed for those employers whose operations are necessary to the war effort. (This entire plan is described and illustrated in the article which begins on the next page.)

Representatives of the industry have already met with the essentiality committee of the War Manpower Commission in Washington and have tackled the problem of the essentiality of the lithographic industry. However, with almost every industry making the same plea for deferment of all its men, the case for such deferments loses much of its strength. Sixty thousand men in any given industry, for instance, may seem essential to those in that industry, but to the Selective Service System they may appear more useful as five or six fighting divisions of the United States Army. It therefore seems that any essentiality rating for the lithographic industry could not possibly be a blanket deferment of all men in the industry of draft age.

It seems more logical to expect possible deferments for certain key men in the lithograph plants, men who cannot be replaced in any reasonable length of time, and whose loss would mean a serious loss of operating effectiveness. Even this, if we are to be guided by the Selective Service definition of an essential man, could apply only to those plants doing work essential to the war effort. In the words of one of the Selective Service System's own bulletins, "if the activity is neither necessary to war production nor essential to the support of the war effort, then no occupation within that activity can be considered as an essential occupation, and there can be no grounds for occupational classification."

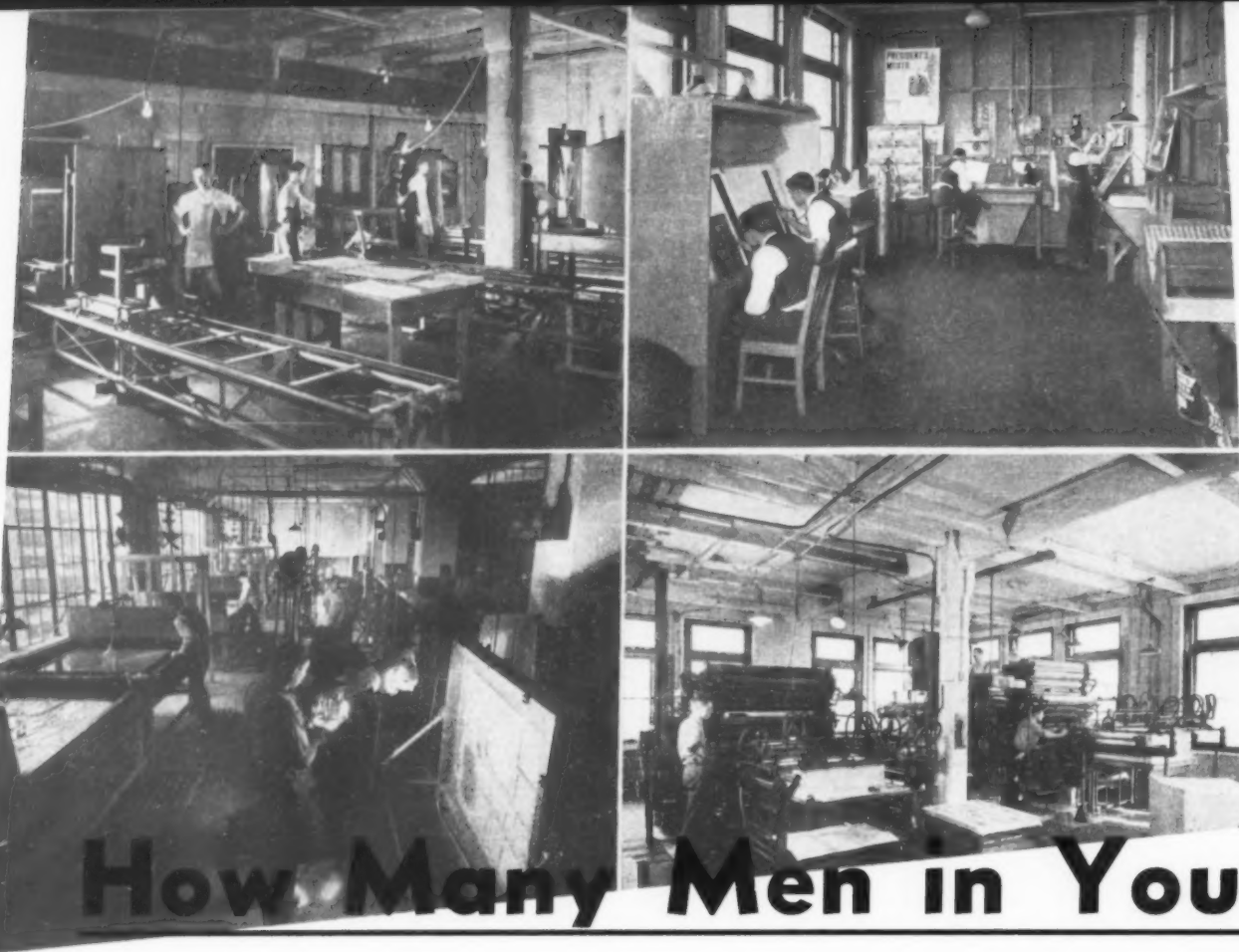
However, the Manpower Commission, in answer to a question by one of the lithographers' associations, urges lithographic employees to remain on their present jobs until such time as specified need for a change has been indicated by the Commission. This "stay on the job" advice was given to all employees in the printing and lithographic industry, as it has in a number of other industries in other fields, and makes an exception of "those engaged in occupations listed as non-deferrable." This non-deferrable list, it will be recalled, is the one that caused such discussion during February when it was issued.

So, from all indications, employees should stay where they are at the present time. But for the long range problem, it appears that those plants either contracting government work, or turning out work directly in support of war industries, will be in the better position when the manpower squeeze grows tighter.



**A** WEALTH of authentic material on "How to Essential-ize Your Printing and Lithography" is contained in the Guide Book just issued by the Graphic Arts Victory Committee. The book contains 64 pages jam-packed with fundamental information on the many ways to make lithography and printing more useful and more essential in the war. It is planned, written, and compiled specifically for the producers of lithography and printing by men within the industry who understand the many problems involved in the application of these ideas. For any lithographer who is seeking to get the type of business in his plant that will make a real contribution to the war, or will support the war industries, this book offers unlimited starting points for many campaigns.

We believe the Victory Committee has done a good piece of basic work. Like any other good thing, however, this doesn't produce essential work all wrapped up ready for the lithographer. The Guide Book offers the fundamentals, and it is up to the lithographer to apply these fundamentals to his own market using his own initiative and enterprise.



## How Many Men in Your Selective Service provides a method for the systematic replacement of draft age men, it is outlined here and is officially approved

**T**HE lithographic industry, in spite of the highly essential work many plants are doing in war production, is facing increasingly critical shortages of skilled help. Selective Service is of course calling the large percentage of available men for the expanding armed forces, while in war manufacturing areas large scale shifts are being made from so-called civilian industries to direct war industries. Lithographers, consequently, are "scraping the bottom of the barrel" trying to keep together enough employees to meet the essential printing needs of a nation at war.

Some lithographers may not be familiar with the plan provided by the War Manpower Commission and the Selective Service System which attempts to keep to a minimum the dislocation resulting from the shifting or drafting of essential men in the lithographic and other industries. This plan, which makes use of a "Replacement Schedule," for the systematic replacement of those men who

must be made available for military service, has been emphasized recently in the trade, through a number of association meetings and through other mediums, and several lithographic firms find that it is a practical way to ease the problem.

Samples of the approved forms for these replacement lists and replacement summaries are shown in connection with this article. These Replacement Schedules may be used by lithographic plants which have a certain minimum number of employees, often from 20 to 25. The minimum varies for different regions and may be learned from state or regional WMC offices. Smaller plants must depend upon requests for deferment of key men through their local draft boards and through the use of Forms 42A for men without dependents, and 42B for men with dependents. These will be dealt with later in this discussion.

The employer making the Replacement Schedule should be prepared to establish the essential nature of his product as it relates to the war effort, as the plan is designed to apply only to employers who are directing a substantial portion of their facilities toward this end. WMC has pointed out. WMC has also advised employers who wish to make up a schedule to first contact the State Director of Selective Service for the state in which his plant is located, so that he may obtain full instructions and a statement of any policy affecting that particular area, before proceeding with the preparation of the forms.

The procedure for utilizing the Replacement Schedule is simple. The schedule is divided into two parts as follows:

(a) A Replacement Summary which is made up from a survey of the employer, arranged generally by



job titles and by Selective Service status.

(b) A Replacement List upon which are listed by name the male employees who must be replaced so that they may be made available for the military service.

The first step in preparation of a Replacement Schedule is for the employer to secure with respect to each male employee, the following information:

(a) Job Title; (b) Age (date of birth); (c) Local board number and address; (d) Selective Service order number; (e) Selective Service Classification; (f) Family relationship—(1) Single, (2) Married without children, (3) If children, the number of children. When this information

has been secured, the employer is then ready to prepare a Replacement Summary.

In preparation of the Replacement Summary, employers should follow the form here illustrated by Example A. The employer lists all of the jobs by plant departments, or other operating units, the order of listing depending on the manner in which the company's records are kept. Opposite each job the employer lists under the following headings the total number of workers engaged:

(a) Number of women; (b) Number of men not to be considered for replacement—(1) Men with minor children, (2) Physically unfit, (3) Over thirty-eight, (4) Under eighteen (men who will reach 18

within the six month period from the date of submission of a Schedule will be listed under (c) below); (c) Number of men to be considered for replacement—(1) Single Men, (2) Married men without children. The Replacement Summary thus presents a condensed schedule of the jobs and workers in the plant and forms the basis for the Replacement List.

In the preparation of a Replacement List, employers should follow the form illustrated in Example B. The employer lists by plant departments or other operating units as used on the Replacement Summary the names of the men whom he will be prepared to replace. "Number of

(Continued on Page 59)

# Shop Can Be Replaced

**REPLACEMENT SUMMARY**  
List of Jobs—Selective Service Status of Workers  
April 15, 1945  
Signed: President

ABC Lithograph Company  
1945 North Victory St.  
Center City, U. S. A.

Line No. or Code	List of Jobs (Job Titles)	No. of men with minor child	No. of men not to be considered for replacement on Example B				No. of men to be considered for replacement on Example B				Total No. of men	Total No. of women
			Men	Class	Over 38	Under 18	Single	Married	Unfit	Under 18		
1	LITHO ART DEPT. LITHO ARTISTS											
	Duchess											
	Operator	2										
	CAMERA DEPT. Color Separation											
	Half-tone Operators	1										
	Line Operator											
	PLATEMAKING DEPT. Platemakers											
	Pressmen											
	Press Operators											
	Press Feeders	1										
	(Etc.)											

**REPLACEMENT LIST**  
List of Employees—Anticipated Replacements for Month or Period  
April 15, 1945  
Signed: President

ABC Lithograph Company  
1945 North Victory St.  
Center City, U. S. A.

Line No. or Code	Job Title	Name	Tr. of Birth	Sel. Serv. Class.	Mar. Sta.	Rel. Date	We will be prepared to replace these men within the month or period checked below											
							1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	11th	12th
1	LITHO ART DEPT.																	
	Litho artist	James, James L.	1909	113M	S													
	Litho artist	Wilson, Jeffrey B.	1912	113M	S													
	Operator	Bradley, John S.	1911	113M	S													
	CAMERA DEPT.																	
	Color Dept.	Smith, Joseph F.	1917	113M	M													
	Half-tone Op.	Nichols, Roger G.	1916	113M	M													
	Line Operator	Evans, John T.	1917	113M	M													
	PLATEMAKING DEPT.																	
	Platemaker	Hartley, Chas.	1908	113M	S													
	"	Park, Franklin	1908	113M	M													
	"	David, Donald E.	1916	113M	M													
	Pressmen																	
	Printer	Holton, Wm. C.	1917	113M	M													
	"	Roman, W. H.	1916	1A	G													
	"	Hatta, Harold	1908	113M	M													
	Press Operator	McMillen, John	1917	113M	M													
	Press Feeder	Ruff, H.N.	1919	221M	M													
	"	Jackson, Ralph J.	1923	113M	S													

(Note:—Line) No. should be identified in Col. 1, by name or number, city or county, and state.

**EXAMPLE A**—The replacement summary should be made up in the form shown above. This reduced sample attempts to show only the form and method of preparing the summary, but does not attempt to give a complete picture of any litho plant. The schedules should contain all male employees from the president on down. The Replacement List (Example B) is usually prepared after the Summary.

**EXAMPLE B**—The Replacement List contains only those men of draft age in the plant, with the estimated time required to replace each one. Again, this illustration does not attempt to show a complete litho plant with all departments but only sufficient entries to show what type of information is needed. The period needed for replacement may vary with different plants depending on the labor supply.

# BOOKS

## BY OFFSET

**Announce 90 selected books for exhibit out of 548 entries from many publishers and lithographers. Plan national tour**

**T**HE premiere of "Books by Offset," the first project of its kind ever held, was staged March 29, at the Town Hall Club, New York, and was attended by over 200 lithographers, publishers and allied tradesmen. The next day the exhibit, which contains a selection of 90 outstanding books produced during the last two years by offset lithography, was opened to the general public at the galleries of the American Institute of Graphic Arts, which is sponsoring the exhibit. The 90 books were to remain in the New York galleries until April 10, and then become a traveling exhibit to tour the nation. The itinerary has not yet been announced, and George R. Carter, former U. S. Public Printer, and chairman of the committee in charge, has stated that organizations in cities wishing to ob-

tain the exhibit may communicate with him at the institute, 115 East 40th Street, New York. Early action is requested as final plans for routing of the exhibit are now being made up.

The 90 selected books were chosen from 548 entries, and are listed in connection with this article, together with the firms which produced them.

Those attending the premiere dinner and showing of the books, heard R. Verne Mitchell, president of Harris-Seybold-Potter Co., and William B. Marsh, of Wm. E. Rudge's Sons, who were the featured speakers of the evening, followed by a quiz session presided over by "Sum" Eney of Champion Paper & Fibre Co.

Mr. Mitchell gave the historical background of offset lithography, told how the process was qualified to produce the type of work represented by

the selection of books, and extolled the "Books by Offset" project as one which would direct wide attention in the publishing field toward the use of the lithographic process.

During his talk, Mr. Marsh, who was a member of the committee arranging the exhibit, said, "We deliberately set out to demonstrate the many and various uses of lithography in the field of book production," and added that the committee attempted to make the show not a best book exhibition but rather a representative book exhibition. He candidly evaluated the books of the exhibit and raised the question, "Why do publishers produce books by offset instead of letterpress?" He listed a number of reasons, including, cost, artistic effect, variety of paper stocks.

*(Continued on Page 59)*



R. V. Mitchell



"Sum" Eney



William B. Marsh

**MODERN LITHOGRAPHY**

# The Ninety Selected Offset Books

Here is the list of selected offset books. Following each book title is the name of the lithographer who produced the book. Titles are grouped by classes.

## JUVENILES

The Dragon Ship; Affiliated Lithographers, Inc., New York  
Pretty Pussies; American Colortype Co., Allwood, N. J.  
The Little Red Lighthouse; Polygraphic Co. of America, New York  
The Tall Book of Mother Goose; Western Printing & Litho Co., Poughkeepsie, N. Y.  
The Three-Four Kittens; Polygraphic Co. of America, New York  
The Little Geography of the U. S.; Tudor Press, Boston  
America Sings; Wm. C. D. Glaser, Long Island City, New York  
Let's Make Something; Colorgraphic Offset Co., New York  
The Tenggren Tell-It-Again Book; Western Ptg. & Litho Co., Poughkeepsie, N. Y.  
Thoroughbreds; George Miller, New York  
Twenty Little Fishes; Polygraphic Co. of America, New York  
Pepita Bonita; National Process Co., New York  
Bushy Tail; Jersey City Printing Co., Jersey City, N. J.  
The Water Carrier's Secret; Kellogg & Bulkeley, Hartford, Conn.  
American Trees; Western Ptg. & Litho Co., Poughkeepsie, N. Y.  
American Butterflies and Moths; Western Ptg. & Litho Co., Poughkeepsie, N. Y.  
A Child's Book of Christmas Carols; Western Ptg. & Litho Co., Poughkeepsie, N. Y.  
Wings Around South America; Affiliated Lithographers, Inc., New York  
Little Golden Book of Fairy Tales; Western Ptg. & Litho Co., Poughkeepsie, N. Y.  
Stories of Our American Patriotic Songs; National Process Co., New York  
Man Is a Weaver; Duenewald Printing Corp., New York  
Poor Richard; Wm. C. D. Glaser, Long Island City, N. Y.  
The Blue-Eyed Lady; Wm. C. D. Glaser, Long Island City, N. Y.  
Dash and Dart; Duenewald Printing Corp., New York  
Parasols Is for Ladies; Jersey City Printing Co., Jersey City, N. J.

## ADULT TRADE BOOKS

Roll Call; Zeese-Wilkinson Co., Long Island City, N. Y.  
Currier & Ives; Zeese-Wilkinson Co., Long Island City, N. Y.  
Trout Lore; Affiliated Lithographers, Inc., New York  
North Atlantic Patrol; National Process Co., New York  
The Art of Walt Disney; Western Ptg. & Litho Co., Poughkeepsie, N. Y.  
Iron Horses; Rheel Litho Co., New York  
New England Grouse Shooting; Affiliated Lithographers, Inc., New York  
Ol' Bill and Other Stories; Affiliated Lithographers, Inc., New York  
Symphony Themes; Rheel Litho Co., New York  
The Last of the Sea Otters; Sackett & Wilhelms Litho Corp., Long Island City, N. Y.

## TECHNICAL BOOKS

Training Manual; Copifyer Lithograph Corp., Cleveland  
Industrial Inspection Methods; Sackett & Wilhelms Litho Corp., Long Island City, N. Y.  
Manual of Moment Design; H. M. Ives & Sons, Topeka, Kan.  
Boatbuilding; Rheel Litho Co., New York  
Blueprint Reading; New York Lithographing Co., New York

## TEXT BOOKS

Anyone Can Paint; Eldredge Co., Brooklyn, N. Y.  
Pottery in the U. S.; National Process Co., New York  
English in Work and Play; Jersey City Printing Co., Jersey City, N. J.  
Reptiles; Western Ptg. & Litho Co., Racine, Wis.  
Streets and Roads; Newman-Rudolph, Chicago  
The Wonderworld of Science; Jersey City Ptg. & Litho Co., Jersey City, N. J.

Learning to Look at Our World; Polygraphic Co. of America, New York  
Chinese Reader for Beginners; Stanford University Press, Calif.  
Pottery Making from the Ground Up; Rheel Litho Co., New York  
Let's Make a Home; Western Ptg. & Litho Co., Racine, Wisc.  
How to Create Cartoons; Sackett & Wilhelms Litho Corp., Long Island City, N. Y.  
Strength Through English; Jersey City Printing Co., Jersey City, N. J.  
Latin for Americans; National Process Co., New York  
Harmony; Rheel Litho Co., New York  
Next Door Neighbor; Western Ptg. & Litho Co., Racine, Wisc.

## REPRINTS

Social Welfare and Professional Education; University of Chicago Press, Chicago  
Principles of Christian Living; University of Chicago Press, Chicago  
Ignatius His Conclave; General Offset Co., New York  
Poem of the Cid, Translation and Notes; The Merrymount Press, Boston  
Modern Surgical Technic; Edward Stern & Co., Philadelphia  
The Concise Cambridge History of English Literature; National Process Co., New York  
American Renaissance; Affiliated Lithographers, Inc., New York  
Japanese-English Dictionary of Sea Terms; Stecher-Traung Litho Corp., San Francisco

## WORK BOOKS

Introduction to Applied Entomology; Colwell Press, Minneapolis  
Problems in Kinematics; John S. Swift Co., St. Louis

## SCHOOL ANNUALS

The Guide; The A. L. Garber Co., Ashland, Ohio  
Old McGill 1942; Woodward Press, Inc., Montreal, Que.  
1942 Oregana; Bushong & Co., Portland, Ore.

## BOOKVERTISING

Charm in Kenwood; L. H. Forster & Associates, Dayton, Ohio  
Our American Heritage; Hans Gugler & Son, Aurora, Ill.  
A Qualitative Study of Magazines; Duenewald Printing Corp., New York  
In a Big Way; National Process Co., New York  
The Bump on the Hook; Grafton Graphic Co., New York  
One Year After Pearl Harbor; Polygraphic Co. of America, New York  
Alice in Sponsorland; Kipe Offset Process Co., New York  
Working Manual for Sales Control; National Process Co., New York  
The Port of New York; Rogers-Kellogg-Stillson, Inc., New York  
Creative Artists 1941; Sackett & Wilhelms Litho Corp., Long Island City, N. Y.  
Where the Park Is Part of the Plan; Crafton Graphic Co., New York  
Wadham's Public Acceptance; W. A. Krueger Co., Milwaukee

## WAR BOOKS

New World Horizons; Affiliated Lithographers, New York  
How a Plane Flies; Rheel Litho Co., New York  
The Book of Modern Warplanes; Michaelson Lithograph Corp., New York  
Bomber's Moon; Polygraphic Co. of America, New York  
Britain at War; Jersey City Printing Co., Jersey City, N. J.  
The Courage and the Glory; Jersey City Printing Co., Jersey City, N. J.  
The United States Army; Western Ptg. & Litho Co., Poughkeepsie, N. Y.  
Air Patrol; Jersey City Printing Co., Jersey City, N. J.  
He's in the Armed Forces Now; General Offset Co., New York  
Submarine; Western Ptg. & Litho Co., Poughkeepsie, N. Y.



# Improved SEPARATION TECHNIQUE

by **ELBERT M. LUDLAM**, *Dean, N. Y. Institute of Photography*

**I**t is quite evident that the techniques of color separation now employed are not ideal. This is shown not only by the amount of hand work still required after a set of negatives have been carefully masked but the necessity for masking, in itself, testifies to the faults of the negatives.

The arbitrary assumption that the filters now in common use, represented a practical ideal has not been warranted. It has, however, channeled research almost exclusively into improvements and calculations of the masking processes. As the complications involved, particularly the mathematical processes, became more and more impractical, the author was led to an effort to simplify them into some form useful in the average shop.

It is axiomatic that any process which is to be offered for general use should first be questioned for its soundness. It will become evident, as we question the soundness of masking methods, that they are not based on very solid ground. This is not to be construed as indicating that masking will be entirely unnecessary for best results. It does, however, mean that complete reliance on mask-

ing is to refuse to take advantage of simpler and more direct correction.

Commonplace though color is, we really do not understand it any too well. Our ability to reproduce nature closely with only three colored inks is due entirely to the analytical method by which the eye perceives color. We are therefore primarily interested in the eye's responses and its acceptance of distinctly different combinations as being the same in hue.

This property of light which we perceive and term color is a manifestation of the vibrational nature of light. Present day familiarity with radio has popularized that form of electronic energy. We are familiar with the announcer's statement that his program has been broadcast on a frequency of 860 kilocycles. He means by this statement that the electronic energy wave which carries his program is so generated as to alternate its characteristics at the rate of 860,000 complete changes per second.

If this energy wave were caused to alternate at a very much higher frequency, we would perceive it with the unaided eye as light. If it is vi-

brating at the rate of four billion billion times per second this light wave will appear red in color. Any change in the frequency of vibration causes a corresponding change in color. Thus, when light waves vibrate at the rate of 5 billion billion cycles (complete changes) per second, we perceive a yellow. Six billion billion cycles characterize a green, 7 billion billion a blue-green, and 8 billion billion marks point at the upper limit of vision and blue in color.

**T**HE human eye is incapable of perceiving relatively small changes in frequency. There are, for instance, a billion one cycle changes possible between the red and yellow, yet even a trained observer cannot see even 100 different colors in this group. These are the colors we term orange and we are usually satisfied to catalog them as an orange-red, a reddish orange, orange, a yellowish orange and an orange yellow. This, with red and yellow, gives a total of seven colors.

It becomes evident from this that the eye does not have a mechanism which is capable of measuring the frequency of light and thus perceiv-



ing color. The impossibility of such a mechanism is further borne out by the necessarily small size it must have. We, for instance, are able to distinguish the color of small dots whose image on our retina must be about 1/1000 inch in diameter. It is hardly conceivable that a very complicated mechanism could grow within so small an area.

The clearest indication of the beautiful simplicity of nature's method of color distinction comes from the inability of the eye to perceive a difference between pure spectral colors and the hue of certain mixtures. Thus, for instance, if red and green light is mixed, the resultant hue is indistinguishable from pure yellow. Further, by varying the proportions between the two lights we can permit the red to predominate so as to match the orange colors of the spectrum;

course, impossible as yet to take the eye apart and watch it work; we must depend upon theory. However, with an adequate knowledge of vision, its abilities and its inabilities, we can feel quite confident in any theory which is able to satisfy all such conditions.

THE first exponent of such a satisfactory theory was Thomas Young in 1802. He proposed that visual color discrimination depended upon three separate receptive mechanisms in the eye. Each of these is affected by every color in the spectrum but the degree of response is different for each color. The mind receives three separate amounts of nerve energy, one from each receptor, and interprets this tri-fold sensation as a perception in color.

This is best illustrated by an an-

the so-called "green receptor" of the eye responds. Alone, a single receptor such as this could never be sure of colors. It would, for instance, be confused between greens and anything bright. Anything dark might be a blue, a red, a dark green, a gray, etc. It does, however, provide a beginning.

A second such receptor, having its maximum sensitivity in the red region of the spectrum and being less sensitive to green and least to blue, greatly improves the ability to distinguish color. A strong stimulation of both might indicate either a white or an intense yellow; but if only one were strongly stimulated we are sure of that color.

A third, whose maximum stimulation is caused by blue light, completes the necessary receptors. The ability of these three to give distinctly different sensations for the most important colors is clearly shown by the table on this page.

If further evidence in support of this theory were necessary, the perception of the last three colors in the table is very material. These colors do not exist in the spectrum—that is to say, they never exist as a pure frequency. They are only perceptive when both blue and red light are present.

THE process of color reproduction which we use depends on the absorption of colored light by the inks involved. Three inks are required in the ideal process. Each should at full strength absorb completely one of the three visual *stimulators* (blue, green and red); at the same time it should freely transmit the other two *stimulators*.

A yellow ink at full strength absorbs practically all the blue light falling on it. A half tone of yellow, on the other hand, still leaves one-half the paper uncovered and the area therefore reflects half the blue light to the eye. The stimulation therefore consists of half the blue, all the green and all the red. The sensation is that of a pale yellow.

If now this same area is overprinted with a half tone of magenta ink, a pale red should result. The

*Degree of Stimulation of Each Receptor Caused by the Color*

Color	Blue Receptor	Green Receptor	Red Receptor
White	intense	intense	intense
Gray	moderate	moderate	moderate
Black	very weak	very weak	very weak
Blue	intense	moderate	very weak
Blue Green	strong	strong	weak
Green	moderate	intense	moderate
Yellow	weak	strong	strong
Orange	very weak	strong	intense
Red	very weak	moderate	intense
Lavender	moderate	weak	intense
Magenta	strong	very weak	strong
Purple	intense	very weak	moderate

if on the other hand the green predominates, we can match the hues of the lemon yellows and yellowish greens.

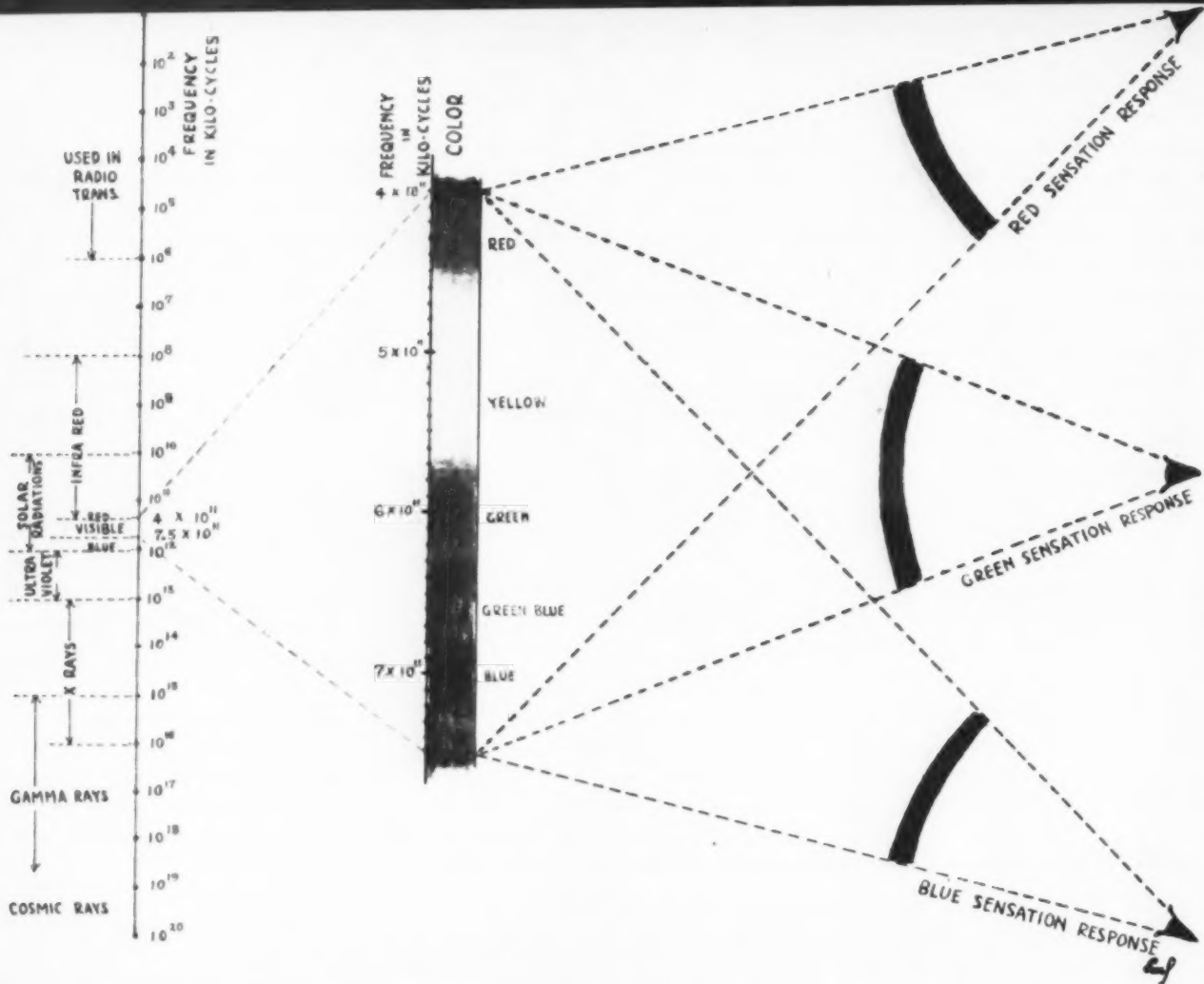
It is not necessary that the colors used for making these combinations be pure themselves; they may, in fact, be mixtures of all those colors which are similar in hue as, for instance, a broad band of reds from the spectrum.

Information of this nature, together with a knowledge of the failures in color distinction which are characteristic of "color blindness" provides an adequate basis for a theory of color vision. It is, of

alogy. The photo-electric exposure meter is now commonly understood. A receptive cell, acted upon by light, creates electric energy which is interpreted by a meter. The cell in use today, however, responds differently to light of different colors. Thus, if a reading of 100 were obtained from green light, the readings for light of other colors, but of the same strength, might be as follows:

Blue	40
Blue Green	80
Green	100
Yellow	95
Red	20

It is in exactly similar manner that



The diagram above illustrates the various sensations of the eye. The red sensation sees red as such, orange as a lighter red, yellow as a still lighter red, green as a grayed red and all other colors as black. The green sensation sees green as such, yellow and blue green as lighter green and all others as black.

The blue sensation sees blue as such, blue green as a lighter blue and green, yellow and red as black. Black is not a sensation but a lack of sensation. The combination of these sensations gives the great variety of color which the human eye can perceive from the inks used in color lithography.

magenta ink will be absorbing half the green; the yellow ink will be absorbing half the blue; the net result is that half the blue, half the green, and all the red light is reflected from this area.

Were the two inks to be laid on in full strength, the yellow would absorb all the blue light, the magenta would absorb all the green light and, as a result, only red light would be reflected from that area.

The ink which I have termed *magenta* is, in the trade, termed "*red*." This is very decidedly a misnomer and has very often led to the use of a red ink. A red ink must of necessity absorb all the blue and green light at full strength. As a result, it becomes impossible to obtain satisfactory blues. The ink which is used to control the reflection of red light is correctly termed blue green. It is also correctly named cyan turquoise and sky blue, all of which are common names for the same

color. In the trade, however, it is incorrectly called blue. In general, this has not led to the use of an ink which did not reflect sufficient green.

This latter good fortune is probably due in most part to a change of name which is relatively recent. In material published before the turn of the century, you will find the colors of the spectrum named: "indigo, blue, green, yellow, orange and red." Today we call the same colors in that order, blue (rather than indigo), blue green (rather than blue), green, yellow, orange and red. The true blue color was at that time obtained only from the indigo plant and the color was so named. The visual mixture of blue and green, which is responsible for our perception of the color formerly called blue, is responsible for its now being called blue green, and indigo being changed to blue. All literature on the subject must be read with this in mind as even at the present date

the old nomenclature carries over in a confusion of terms used to designate much the same color. Violet blue and blue violet, and even violet, are terms frequently used confusedly for blue. Indigo and royal blue are common names for the true color.

**I**N printing, blue is obtained from a full strength of blue green ink overlaid by a full strength of magenta or vice versa. The blue green should properly absorb only the red light and the magenta should absorb only the green light—result, blue light is freely reflected.

Green is in turn obtained by the combination of blue green ink to absorb the red, together with yellow ink to absorb the blue, thus leaving the green freely reflected.

Intermediate colors will result from the use of half tones which permit the absorption of only a part of one or more of the *stimulator* colors.

Tints are obtained in the same

manner and shades are obtained by using the third ink to absorb part of the energy of the desired hue, thus weakening it or, as the painter might say, graying it.

That the fourth or black printer has been necessary in the past goes without saying. It has been necessitated largely because the inks in use were first of all not correct in color and, secondly, they were usually not sufficiently transparent. The color of the ink and its part in forcing the use of a black printer will be discussed in full later. The second problem, that of transparency, is of importance at this point.

When one ink is to be printed over another, the transparency of the one on top is of paramount importance. An opaque ink will completely hide the lower color, preventing it from taking any part in the formation of a combined effect. The upper ink must be 100% transparent to obtain full value from the lower in the reproduction of colors. Partially opaque inks, by blocking the color from beneath and further by adding their surface reflection, not only degrade the resultant color but change its hue considerably. The lowermost ink may be partly or wholly opaque without affecting the result, but the others should be as nearly 100% transparent as possible.

To test the transparency of an ink, it should be smeared on a black surface (glass, marble, enamel, etc.). If the ink is 100% transparent, all color will disappear, it being absorbed by the black underneath. If, however, the ink is partly opaque, it will show this by the amount of color it reflects from its surface. A fully opaque ink will appear the same whether printed over a black or a white surface.

When an ink is partially opaque, it must be used at reduced strength in order to minimize the degradation of the reproduced colors. This weaker ink will be unable to absorb its proper share of the *stimulator* it controls and, as a result, the colors involved will not be fully saturated and neutral tones will be weak and often show color. To restore these neutral tones and strengthen the weakened

shadows, the black printer is used.

In order to reproduce a color then, we must first obtain a record, in some way, of the degree to which it stimulates the three visual receptors. The problem of reproducing that color then becomes a question of controlling the reflection of light from the paper so as to stimulate the receptors to as nearly the same degree as possible.

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#### First of a Series

**This is the first of a series of articles on separation technique by Mr. Ludlam. The second article will be published in an early issue.**

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**T**HIS problem would be greatly simplified if it were possible to find inks which would control the stimulations of but a single receptor. Unfortunately, all practical dyes, pigments, etc., affect the stimulation of not just one but actually of all three receptors. This considerably complicates the task as the three original records cannot be considered in terms of a single receptor each, but must be considered in the light of the effect on each receptor's stimulation by the ink whose printing densities are determined from the negative densities of the record under consideration.

It is vitally necessary to reiterate that the ink is used solely to absorb color. Thus, the blue green ink is used to absorb the red light falling on it. It is not used because it reflects blue and green light. The white paper base does this much more efficiently. The blue green ink, therefore, should absorb all red and orange light but should freely transmit all the blue and green.

The red light is to be absorbed from every portion of our picture except from those areas which in the original reflected red light. These will include all reds, oranges, yellows, grays and whites. The negative which is made for the purpose of controlling the printing densities of the blue green plate should record the amount of red light reflected from such areas. This negative is therefore made on panchromatic film through a red filter.

In similar manner, the negative made for controlling the densities of the magenta printing plate is made to record the amount of green light reflected from the subject. This requires the employment of panchromatic material and a green filter. The blue record negative, as it is called, is likewise made on panchromatic material but using a blue filter.

If the filter transmits exactly the same light that the ink absorbs, then the brilliancies of the image formed on the emulsion will be a true negative representation of the desired densities of that ink. The emulsion sensitivities and the character of the illumination also affect the negative response. Their combined effect must therefore be taken into consideration. We term this combined effect the filter-emulsion response.

It is this filter emulsion response which should match the absorption characteristics of the ink. Failure to obtain a close match will result in printing either too much or too little ink in certain areas, depending on the character of the failure. A close examination of this last statement will help considerably toward a better understanding of the problem.

If, for instance, our blue green ink is ideal it will, as has been said before, absorb the red light completely while freely transmitting the blue and green. Suppose then that a filter-sensitivity, which records some green light, is used for making the corresponding negative. Objects which reflect green light will then be recorded as densities in our negative. These densities will prevent those items from printing as heavily as they should in the printing plate and, as a result, an insufficient amount of the blue green ink will be deposited and the red light will not be sufficiently absorbed. The end result is that the greens will be too pale.

**O**N the other hand, a filter-sensitivity which does not record enough of the orange reds would fail to pick up any record of these colored reflections from yellowish greens. As a result, the blue green ink will print in full density, thereby  
(Continued on Page 63)





# Lithography

## VS.

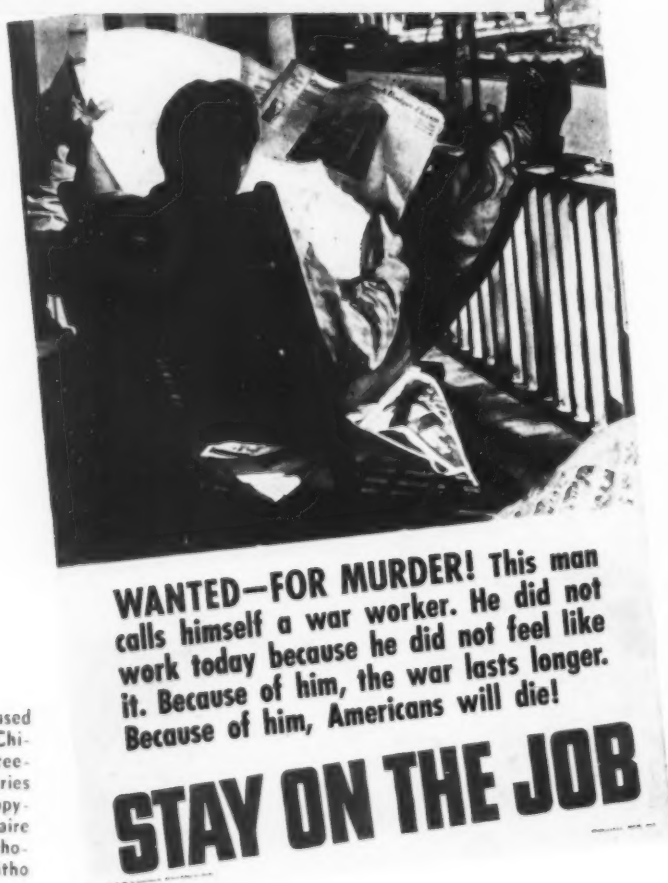
# Absenteeism

**"N**O ATTEMPT should be made to whitewash absenteeism," said a recent report to the Manpower Commission.

With which everyone agrees.

By the same token no attempt should be made to smear absenteeism either. Which is exactly what has been and is being done. The problem of absenteeism is not nearly as sensational as it has been made to sound. The press and certain public figures have made it appear that we are losing the war because of it. We mention this because the Monday morning hangover and all the other sensational causes which are so frequently cited as the major causes of absenteeism are typical of the misinformation, lies, distortion, confusion, passing the buck, and exaggeration which surrounds the whole problem. Absenteeism, however, is a major problem and all indications are that it will grow in size. But until more impartial analysis, systematic and truthful investigation, cooperation and teamwork is used in digging at the root of the problem there will never be anything like a halfway solution.

We hear absenteeism is management's problem; we hear absenteeism is labor's problem; we hear absenteeism is labor-management's prob-



Top—A blow-up poster used by Zenith Radio Corp., Chicago to promote "presenteeism." Right—One of a series of 24 x 36 posters copyrighted by Sheldon-Claire Co., Chicago, and lithographed by R & L Litho Corp., Milwaukee.



## If you want to produce lithography that will play a vital part in the war here are some practical suggestions

lem; we hear it is the unions' problem; we hear it is the federal government's problem. But we hear little about absenteeism being the entire community's problem. Which is exactly what it is. Including the lithographer and every man on his staff.

Look at it this way: Accidents are a cause of absenteeism. This country has more accidents than any other country in the world except Chile. Japan has a fifth as many as we; Germany a third. In the first year of the war six American workers were killed by accidents for every soldier killed in action in all our armed forces. Add to this 4,000,000 workers who were injured, 165,000 of them so seriously they will never work again. The man hours thus lost would have built 20,000 bombers. Who is paying for these 20,000 lost bombers, may we ask? Who is paying for the cost of armaments anyway? Each one of us, of course. Wouldn't it be a wise investment if we therefore examined the causes of absenteeism a little more judicially and sanely?

Looked at as a community problem, then, the lithographer can approach the problem of absenteeism, if he is interested, and he should be, for certainly lithography is proving a vital and worthwhile instrument in reducing it, with a great deal of

profit to himself and his industry. Yes, there is a profitable market for lithography in absenteeism.

IT IS the consensus among personnel men that a normal absence of 2.5 per cent of the work force can be expected. But figures as high as 20 per cent are now being reported. What are the causes? And what can lithography do to help cut them down?

William Green, on the March of Time program, recently spoke of one hundred causes. We talked with a man in charge of personnel at a war plant who listed thirty. *Modern Industry*, a management magazine, recently listed twenty. We have tabulated twenty-six. There are undoubtedly others, but we have listed twenty-six which are particularly amenable to solution by lithography. First, suppose we name the twenty-six causes and then take up each one separately. They are not given in any order of importance.

1. Shortages of raw materials and semi-fabricated items.
2. Women workers.
  - (a) Greater sickness rate.
  - (b) Home responsibilities.
  - (c) Sickness among other members of family.
3. Older workers.
4. Accidents.
5. Religious holidays and customs.
6. Sickness.
7. Unsatisfactory working conditions.
8. Longer scheduled work week and working hours.
9. Housing.
10. Transportation.
11. Shopping and other community recreational and professional facilities.
12. Lack of previous training.
13. Morale.
14. High wages.
15. Inadequate supervision.
16. Poor production planning.
17. Labor hoarding.
18. The weather.
19. Check cashing.
20. Citizen duties.
21. Liquor.
22. Vacations.
23. Poor records.
24. Pay day.
25. Migratory workers.
26. The draft.

IN DEALING with these causes we stress the community aspects of the problem of absenteeism, for we be-

lieve there is an opportunity in the direction of a community program to combat absenteeism which has never been tried before. For example, if a lithographer in Hartford, Conn., or Topeka, say, were to have one of his salesmen interview twenty-five merchants, storekeepers, real estate dealers, members of the Chamber of Commerce—those who represent Main Street, the solid body of the community—and ask them why workers in war plants in their cities went A.W.O.L. he would get a set of answers as far from the truth as the information we read in the press. With this list of answers—with drunkenness and high wages undoubtedly leading the list—the lithographer could go see the representatives of management in the war plants and compare the rumoured causes with the actual ones. A refuting report would be issued which told some plain truths about causes of absenteeism—such as housing, transportation, medical services, shopping, etc.—and on the basis of this report the local merchants association, the real estate dealers associations, the professional associations, etc., would be called together under the guidance of the local Chamber of Commerce and a program drawn up which would alleviate the offending conditions. That this would call for a great deal of printing and lithography goes without saying. Both sides, that is, war plant management and Main Street, would be sympathetic to the program, for both would stand to get something good out of it. Therefore, we suggest that the lithographer spend some time thinking of the community aspects of the problem of absenteeism. The only place that we know of where a program such as this has been initiated was in Los Angeles County, where the Merchants and Manufacturers Association of Los Angeles recently concluded a survey on absenteeism covering aviation plants and shipyards in that area. We suggest that lithographers write to the association for a copy of the survey.

1.) Shortages of raw materials and  
(Continued on Page 57)

# Application of Litho Processes to WAR WORK

By

**WILLIAM H. WOOD**

*Director of Research  
Harris-Seybold-Potter Co.*

**T**HE present war emergency makes it possible for lithographers to contribute directly in furthering the war effort. Besides the usual printing of government forms, Army maps, and the like, lithographic plants, when properly equipped, may proceed with the making of templates, loft drawings, dials, gauge sticks, and panels for tank, aircraft and ordnance production.

Many of the lithographic processes familiar to all lithographers can be adapted readily to this purpose. When it is realized that the production of one new aeroplane requires the making of many thousands of templates before the first plane can be made and that these must be changed as often as a design is changed, it can readily be seen that the market for these is tremendous. If the lithographic shop owner contemplates the production of templates, loft drawings, and similar plates, he should first investigate his facilities rather thoroughly because template making requires precision of a fairly high order.

Cameras and platemaking equipment must be in first class shape and lenses on process cameras should be checked for flatness of field and constancy of image size. The premises must be kept clean and dust free. Templates may be delivered to a company in finished form or they may be delivered unfinished if the company has its own template cutting department.

Although the securing of business is outside the province of this paper, shop owners should contact such firms as the aircraft companies, automobile companies, heavy machinery manufacturers, and other war plants. In many cases these contractors or subcontractors have no facilities of their own for producing templates and they are willing to arrange contracts with lithographers for the production of these in the lithographic plant.

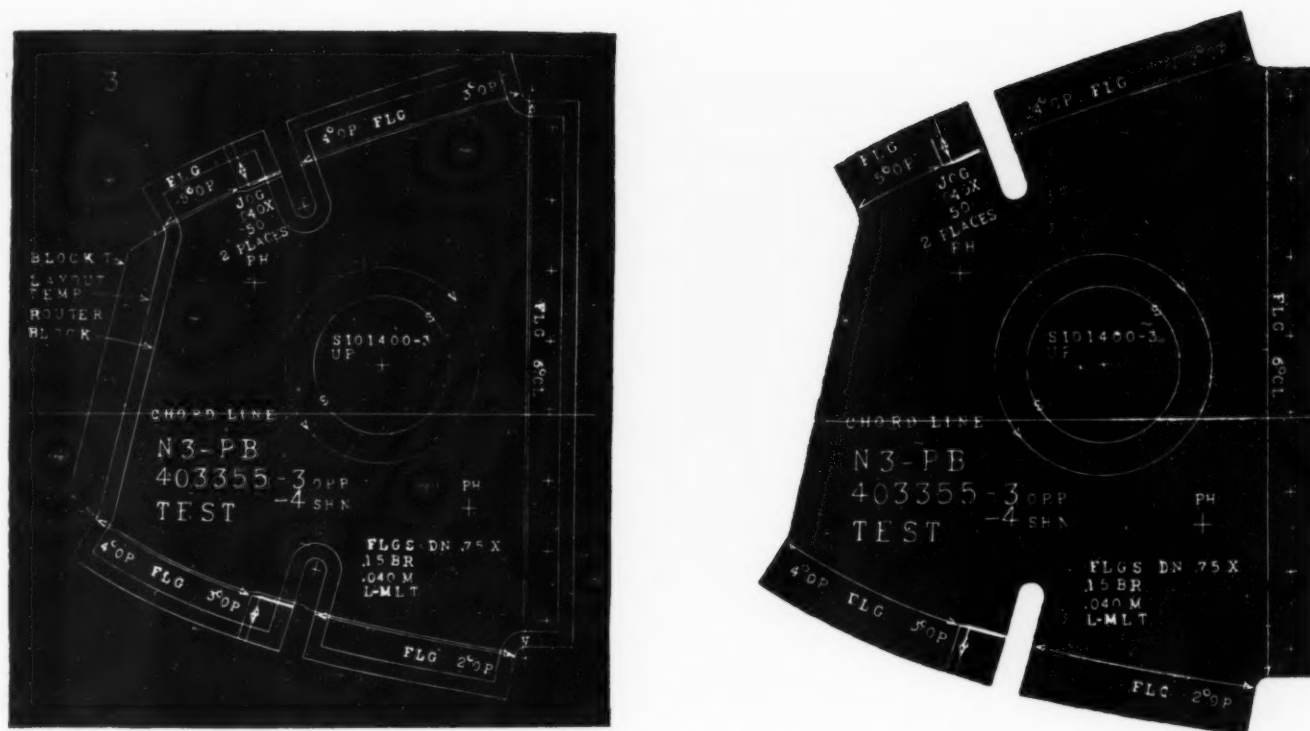
If the lithographic plant has sufficiently large and precise metal cameras it can easily produce loft panels for the aeroplane manufacturer. The process of preparing the lofts involves copying with a high degree of precision, drawings prepared by an aviation draftsman. High contrast plates are required for this since the drawings are usually in pencil and oftentimes have been severely handled before the lithographer gets them. After copying the drawings on a high contrast plate, the drawings are projected upon large sheets of steel using a silver halide emulsion on the sheet if high intensity mercury arcs, or high intensity carbon arc lamps are used for projection, dichromated coatings such as deep etch coatings may be used. Either method is satisfactory but the deep etch method gives a loft plate of greater permanence. This process involves nothing new to the lithographer beyond the coating of large

size plates up to ten or twelve feet in length.

By projection it is possible to eliminate the need for large films having non-stretch characteristics. Many of the aircraft companies have facilities for production of lofts but many of their subcontractors do not.

**T**EMPLATES bring a price which is sufficiently high to make the usual lithographic plate seem cheap by comparison. Template production is essentially similar to loft production except that we operate with smaller originals and reproduce the design in smaller dimensions. The production of templates, accordingly, is not so difficult for the lithographer to master. Templates are used as guides for checking metal sheet parts, sections of ordnance pieces, and other similar designs.

The lithographer may produce template drawings by either the surface plate process or the deep etch process. Here again the deep etch process results in a plate of greater permanence than the surface plate process. As a base metal for the template zinc or galvanized steel or



An example of electrolytic etching. At right is an original layout template. At left is the template as produced completely by the process. Its contour is well within 0.005 in. tolerance and the scribed lines and stenciling have been transferred with practically perfect register. (Courtesy Aviation Magazine.)

auto-body steel may be employed interchangeably. The surface of the sheets may be grained in the usual way as is customary in the lithographic process. A rather fine grain is best. The dichromated colloid coating, which may be albumen or one of the synthetics, is flowed over the plate in a whirler or by sponging. It is then dried and exposed under a master negative which may be a direct one to one copy of the template drawing or template original. It is best to use a high contrast silver halide emulsion on a glass plate as a negative material. Exposure of the dried coating in a printing frame is carried out as in the regular lithograph process. A colored developing ink is used and the print is developed under water, as is customary in making a lithographic plate. The plate is then gummed up and delivered to the cutting room for cutting to exact size. If extra protection is required as would be the case with templates which required a great deal of handling in the plant, we would eliminate the gumming up process and instead apply a coating of an abrasion proof transparent lacquer which

would be spread over the entire design and allowed to dry before the template was cut out. Methyl methacrylate resin lacquer is suitable for this purpose.

If we wish to make the plates by

*(Wide interest has been displayed recently in the use of graphic arts processes in aircraft production. Curtiss-Wright Corp., Columbus, Ohio, reports that it has "slashed man hours and materials involved by 85 per cent" and solved a major production problem in the making of steel patterns. Electro-etching has been in use at Northrup Aircraft, Inc., Hawthorne, Calif., for some months. The method was described as a key factor in the mass production of airplanes. A complete discussion of the Northrup activities in this field is contained in an article by F. M. Gibian and Wes Chatten, in "Aviation," July, 1942. The present article is based on a talk given by Mr. Wood before the convention of the Technical Association of the Pulp and Paper Industry, New York, February 15, 1943.—Editor)*

the deep etch process, the procedure to be followed is much the same except that deep etch materials are used throughout and a positive instead of a negative is used as a master stencil. Deep etch templates are considerably better than templates

produced by the surface plate process because all of the template detail is below the surface and hence is not easily damaged through handling. Zinc or galvanized sheet steel is the best material for preparing deep etch templates. Auto-body steel is too difficult to etch by the usual chemical etches. Sheet steel can be etched by using the deep etch method coupled with an electrolysis process. In this method we can start with either a negative or positive master stencil.

If we start with a negative, we make a deep etch plate in the usual way and obtain lines of hardened coating on the surface of the plate. The plate is thoroughly cleaned with alcohol to remove the deep etch etching solution after which the plate is dried and rolled up with a heavy resinous roll-up ink. The plate is then powdered with dragons blood or a similar powdered resin and is lightly fused on a hot plate. The entire plate is then placed in a tank of acidulated water which removes the semi-hardened colloid coating taking the overlying ink with it. When this operation is completed, the print is dried with absorbent tissues or cham-



## **Specific technical details are described by the author in this discussion of the manufacture of templates and other war products by various lithographic methods**

ois skin and powdered again with dragons blood which is then fused in by heating on a hot plate. This operation is repeated until a heavy resinous resist is built up leaving clear lines on the template surface. The whole plate is then immersed in an electrolytic bath which usually consists of a strong sodium chloride or ordinary salt solution to which acids have been added. Soluble phosphates, such as sodium phosphate, or ammonium phosphate, may be added to the bath and these phosphates will combine with the iron salts formed during the electrolytic etching process to keep the bath clean and free of iron sediment. A relatively low potential current is required for the electrolytic etching operation; from five to eight volts direct current is all that is required. Current density averages about six to ten amperes per square foot of conducting plate surface. The electrolytic etching process requires that the template be the positive plate; a lead, or stainless steel, or carbon sheet may form the cathode or negative plate. Etching proceeds rapidly but it is not possible to cut all the way through a sheet of twenty gauge auto-body steel without accessory powdering of the etched lines since there is some line spread just as there is in chemical etching.

A serrated cathode will result in some improvement in the sharpness of lines but it is still necessary to powder the lines if we intend to cut all the way through the plate. It is perhaps simpler to cut part of the way through the plate and then the template may be snapped out easily in a vise. Any lines or graduations or reading matter appearing on the template may be blocked out after the first ten minutes of etching by means of a heavy resinous solution such as heavy asphaltum. This is for

the purpose of protecting such detail and preventing over-etching which might be harmful.

Electrolytic etching may also be carried out by starting with a positive and preparing the plate in the same manner as an ordinary lithographic deep etch plate; that is, a regular image covered with developing ink is applied to the plate surface. The light sensitive semi-hardened colloid is then removed and the plate is placed in an electrolytic plating bath which may contain lead salts, such as lead sulfamate. A plated coating is thereby built up on the plate. When this is of sufficient thickness the lacquer and ink are removed with a powerful solvent and the template is placed in the salt etching bath just as before. Perhaps this method is the simpler and more practical of the two methods.

A variation of this method may be to use a negative, as in the ink and dragons blood procedure, except that electroplating of the exposed bare metal is carried out instead of etching in the salt bath. A raised surface results and the walled inclosure thus formed can be filled with a protective resin layer such as coumarone-indene polymer. A light sanding with fine emery cloth will remove the resin from the high electroplated metal and the lead deposit can then be dissolved away by making the plate the anode in a dilute sulfamic acid bath, after which it may be etched out in the sodium chloride-phosphate electrolytic solution.

**T**HE production of dials, gauge sticks and instrument panels by the lithographic process is closely related to template production and some of the methods are identical with those used in preparing templates. The deep etch process is preferred for dial, gauge stick, and

panel production; generally zinc or aluminum sheets are employed but here again we may use galvanized steel if we wish. For preparing dials and panels having white letters or figures on a black background we make a deep etch plate in the usual way with a white ink in place of black ink and bake the plate after removing the semi-hardened deep etch resist. The zinc surface may be blackened by using a solution of antimony chloride in anhydrous alcohol, or a solution of copper nitrate and potassium chlorate in water. The dial is then stamped or cut out as usual. If we wish permanence greater than the ink surface provides, we may use a white lacquer in place of the usual deep etch lacquer.

If we require black letters on a white background, then we prepare a high etch deep etch image, spraying white lacquer over the entire plate and removing it from the high etched portions by using a flat abrasive sheet, or by sponging away on absorbent tissues while the lacquer is still wet. The exposed zinc surface is then blackened with the alcoholic antimony chloride solution, or the copper nitrate-potassium chlorate solution, just as before. In some cases we may require that the zinc surface be left exposed in metallic form. Dial production requires on the average a lesser degree of precision than template production and it is not beyond the ability of any lithographer. Radium dials require a special production line.

**T**HERE are many more miscellaneous applications of the lithographic process in war work and among these may be mentioned the making of permanent etched instruction sheets on metal plates for the benefit of shop employees, where such instructions are handled a great deal, making paper base instructions impractical. Any of the above processes may be employed for making such instruction sheets, but again we prefer the deep etch method or the electrolytic etching method. A suitable metal base for such instruction sheets is provided by the use of thin

*(Continued on Page 63)*



**THE WAY**

**IT LOOKS IN**



# Washington

**P**APER, greeting cards, bronze powder, film, and maintenance supplies all received attention in the nation's capital during the past month, although most developments were of a minor nature compared with the recent sweeping orders and directives which have changed many practices in the lithographic industry.

While currently, the immediate outlook is for adequate supplies of paper to meet the requirements of all consumers of print paper, including commercial printing needs, the situation is subject to conditions which may vary the outlook on short notice.

Adequacy of supply until July 1 was confirmed by the WPB after consultation with Canadian woodpulp authorities, and as a result, the contemplated 10 per cent consumption cut was called off. However, manpower shortages and other factors may have the effect of cutting future supplies to the extent that additional curtailments in use may become necessary.

At the time that the WPB announced the moratorium on the second 10 per cent cut, it was indicated that the manpower problem up to that time had been taken into account when the Canadian authorities confirmed their ability to supply 1,170,000 tons, plus an additional 107,000 tons.

The picture, however, is being carefully watched to determine anticipated supplies for the third quarter, and conferences with the Canadian

*by*

**JAY A. BONWIT**

authorities are likely to be held beginning at the end of April.

Further clarification of book paper Limitation Order L-245 was given March 20 by the War Production Board. The official text states, "A printer (or book manufacturer) who was not a 'publisher' of books during the base period, 1942, has no quota of paper for the publishing of books in 1943 under the terms of the order. He is engaged in the commercial printing of books for the account of book publishers and as such any paper which he may put into process is limited to such amount as is provided by the terms of Order L-241. Order L-241 excepts from such printer's quota 'books' printed for a publisher. Consequently a publisher ordering such books must deduct the tonnage of paper represented by such books from his quota.

"As between publishers, however, Order L-245 does not prohibit Publisher A from purchasing books from Publisher B where such books bear the imprint of Publisher B and where the paper for such books is deducted by Publisher B from his quota."

W. G. Chandler, Director of the Printing and Publishing Division,

cautioned, however, that any concerted attempts on the part of the industry or any individual members of the industry to obtain disproportionate advantages under this provision of the order would necessarily lead to a re-examination of the controls established by the order.

WPB issued an interpretation on house organs, clarifying their status under the paper limitation orders. "In general, house organs are not considered to be magazines under the term of Order L-244," the interpretation states, and continues, "In view of this, it would appear that such publications meet the definition of 'printed matter' contained in Order L-241 and they are controlled by the terms of this Order. If, in any particular case, there is a doubt, however, as to whether or not a house organ does or does not qualify as a 'magazine,' it is suggested that you forward a copy of the publication to the Printing and Publishing Division requesting an interpretation."

The Printing and Publishing Division also ruled that lithographed or printed forms necessary to the functional operation of the ration banking plan is ex-quota and is not subject to the limitations imposed by Order L-241. It was emphasized, however, that any advertising or promotion material connected with ration banking could not be regarded as ex-quota.

Representatives of the greeting card industry are reported to have devel-

oped a voluntary plan of curtailment in order to effect savings in manpower and materials, and observers expect that some parts of this voluntary plan will be incorporated in a forthcoming WPB order curtailing activities in this field. No official announcements have indicated what form the government order will take although it was expected at any time. First announcements of the card industry's voluntary plan were made last December and it has been further developed since that time.

A provision for easing "hardship cases" under the price ceiling applying to printing and lithography was issued March 31 by the Office of Price Administration. It lists two conditions under which printers and publishers in exceptional cases may apply for increases in their price ceilings when they cannot afford to sell at present maximum prices. The conditions are: (1) the seller's supply is necessary to meet military or essential requirements, or (2) the loss of the seller's supply will force his customers to resort to higher price sources of supply, and no adequate substitute for this supply is available to those customers at or below the price which the applicant requests.

**R**ECENT newspaper reports of a new government order stopping the use of glycerine in the manufacture of all civilian goods have caused some concern among printers and lithographers because of the important use of glycerine in the making of press rollers. However, it appears now that this April 1 ban on glycerine applied only to certain consumer goods including some cosmetic and tobacco products, and does not alter the operations of roller manufacturers. Roller manufacturers are at present allowed to use 70 per cent of their base period consumption of glycerine under WPB Order M-58.

Bronze powder, paste, etc., which was released for use sometime ago as far as existing stocks go, was given a slight additional boost when it was ruled that bronze powder manufactured outside of the United States may be bought, sold and used in this

country without violation of Order M-9-c-3 which covers this material.

A further development on the film situation came when the method of procurement of photographic film and film base was clarified by the issuance of General Limitation Order L-233 as amended March 9. The amended form makes clear that the only way the Army or Navy and certain other preferred purchasers can obtain film or film base from manu-

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#### The Situation Briefly

**House organs are defined for general classification under the paper restriction orders, greeting card curtailment order may be imminent, foreign-made bronze powder may now be bought and sold, ration banking forms are ruled ex-quota, minor changes are made in the method of film procurement, and an AA-5 rating is given to the industry for container requirements.**

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facturers is on schedules of production and distribution approved by the Director General for Operations of WPB. Under a misinterpretation possible in the past, some manufacturers believed they were required to supply the Army and Navy from film produced by them for civilian use. This is clarified in the amended order. Other than this technical clarification, the order remains unchanged.

**A** NUMBER of vested patents, acquired from enemy interests by the Alien Property Custodian of the U. S. Government, are now open for inspection at the Alien Property offices in Chicago and New York. These patents include a number of developments in the graphic arts field and are available for use under certain restrictions.

CMP-5, the Controlled Materials Regulation which includes references to maintenance, repair and operating supplies which are obtained by preference ratings, assigns Preference Rating AA-2x to printing machinery among other industries. In applying this rating it should be stated on the order that it is done in compliance with CMP Regulation No. 5. This rating is not allowed for the obtain-

ing of maintenance, repair or operating supplies during any calendar quarter in an aggregate amount exceeding one-fourth of the aggregate expenditures for such supplies during the calendar year, 1942.

Some lithographers, during the past month, received copies of the revised Form PD-1A from the WPB. These were said to have been sent out only as samples. These forms may now be filed at the nearest WPB branch if the amounts involved total less than \$500.

**T**HE major long-range development in Washington is a change in thinking concerning the civilian economy. Reorganization of the Division of Civilian Supply is considered necessary so that this agency will have equal weight with other claimants for allocations of raw materials and manpower.

Organized as a subsidiary unit under the WPB, Civilian Supply has not had sufficient authority to assure output of required civilian items, nor has it been able to speak up effectively for manpower requirements. In materials, the difficulty has not been so much in obtaining the requirements. WPB has given approval to civilian programs, but there has been no Governmental authority to assure production up to the approved quotas.

The situation is now clearly the reverse of what it was early in 1942. At that time, stress was placed on conversion of civilian industry to war production. The problem now is in maintaining output of such civilian goods which are essential for a sound "minimum" economy. This concept should not be confused with the idea of the so-called "bedrock" economy. A sound economy takes into account the current phase of the war, with a certain amount of latitude and even comfort for the civilian. The "bedrock" concept is the minimum to which the economy could be squeezed, consistent with health and safety. There have been some industries which have not produced up to the quotas set for them, and since allocations of materials were made on the basis that such industries produced

(Continued on Page 61)

# Shop Talk

By I. H. Sayre  
Technical Editor

If plates have been scumming due to residue left from graining or from handling, which does not respond to ordinary counter-etching, try cleaning them up with the following formulas:

#### First cleaner:

2 oz. Potassium Hydroxide  
1 gallon water,  
(or)  
1 oz. Sodium Hydroxide  
64 oz. water.

Scrub well with this solution, wash thoroughly and follow up with the neutralizing solution of

#### First etch:

$\frac{3}{4}$  oz. of Hydrochloric Acid  
1 gallon of water.

Do not allow the first etch to remain on the plate but pour on as a bath and rinse off immediately under running water. Follow this with a second etch made of

1 oz. Hydrochloric Acid  
1 gallon of water  
4 oz. of Ammonium Alum  
1 oz. of Ammonium Bisulphate.

Etch for about fifteen seconds using a soft brush to scrub the plate. Wash thoroughly and apply plate coating.

#### Gray Scales for Color Work

The easiest way to make a gray scale for color work is by exposing a strip of Bromide paper in steps to produce, after development, a wedge ranging from black to white and con-

sisting of ten or more grays in symetrically progressive tones. Glossy paper is most suitable. Merely cover it with black paper or cardboard after it has been mounted for exposure. To make steps of equal size, a thin steel rule may be fixed on the board at the edge of the paper, and the cardboard moved a half inch at a time giving each interval an equal exposure so that the first block that is uncovered will receive the total of all exposures when the progression has been completed.

Exposure is best made with a low-powered light with an opal glass in front for diffusion. When exposure is complete the print should be developed, fixed and dried, then each step measured with the densitometer. After these measurements are taken, a graph may be drawn, correlating the densities with exposure times, and the necessary corrections made in exposures to give a scale with even steps. It is necessary to use a developer which will produce a neutral colored image, as any brownish tint will make the scale useless for color work. A fresh acid fixing bath is essential for the same reason.

#### Copper Plating on Zinc

In response to a request, we dug up

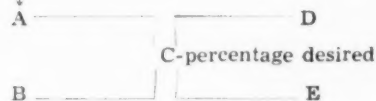
this formula for depositing copper on zinc:

- (A) Dissolve 126 grams of copper sulphate in 2 liters of water.
- (B) 227 grams potassium tartrate  
286 grams sodium carbonate  
2 liters water.

Upon mixing (A) and (B) solutions a light bluish green precipitate of tartrate of copper is formed. Filter through linen and dissolve in half a liter of sodium hydroxide solution 16° Baume's when it is ready for use.

#### Percentage of Dilutions

Percentage strength  
that is to be diluted



Percentage strength  
of diluting solution

At A write the percentage strength of the solution that is to be diluted; at B write the percentage of the diluting solution. Use O for water. At C write the percentage strength desired, then subtract C from A and write the result at E; subtract B from C and write the result at D. If D parts of A are diluted with E parts of B, the result will be a solution of C percentage. For example, if it is desired to make a 28 per cent solution of acetic acid from a 99 per cent stock solution, write 99 per cent at A, O at B and 28 per cent at C. Subtracting 28 from 99, write 71 at E. Subtracting O from 28 write 28 at D. The result, if 28 parts of 99 per cent acetic acid are diluted with 71 parts of water, the result will be a 28 per cent solution of acetic acid.

Photographic chemicals are very often kept in stock solution. In referring to a percentage solution, "X" per cent means X parts in 100 parts of the total bulk of solution. Dry chemicals are usually sold by the avoirdupois ounce of 437.5 grains, and liquids are measured by the fluid ounce of 480 minims. The following tables show the accurate amount of solids dissolved in liquid to make a total bulk of 100 parts for the various percentages, and the number of grains to be dissolved in the right quantity of solvent to make 1 ounce of any given percentage.



Percent	Grains	Percent	Grains
1	4.375	6	26.25
2	8.75	7	30.625
3	13.125	8	35.0
4	17.50	9	39.375
5	21.875	10	43.75

The actual number of grains of solid which must be dissolved in sufficient liquid to make 1 fluid ounce for the various percentages are

Percent	Grains	Percent	Grains
1	4.8	6	28.8
2	9.6	7	33.6
3	14.4	8	38.4
4	19.2	9	43.2
5	24.0	10	48

Example: required to make a 16 per cent solution, take

10 percent = 43.75

6 percent = 26.25

70.00 grains

But if 18 ounces of 10 per cent solution is needed, it takes

$48 \times 18 = 864$  grains

To convert grains to grams, take 6 per cent, and add 8 per cent; grams to grains, multiply by 15, then increase result by 3 per cent. To convert ounces to grams, multiply by 28, then increase result by  $1\frac{1}{4}$  per cent; grams to ounces take 3 per cent and increase it by  $1/6$  plus 5 per cent of  $1/6$ .★★

#### Artists Fete Hoe Executives

Executives of R. Hoe & Co., New York, were guests of Artists for Victory at a dinner March 31 at the Mont D'Or restaurant, and H. M. Tillinghast, Hoe president, was presented with a scroll commending the work done by the company in launching the war art organization and in co-operating in the recent nation-wide poster competition.

Besides Mr. Tillinghast, other Hoe executives present included C. N. Bradley, chairman; Arthur Dressel, vice president and sales manager; C. W. Dickinson, manager of the offset division; T. S. Chadeayne, treasurer; T. J. Gutmann, and William J. Murphy. Irwin D. Hoffman of Artists for Victory played a prominent part in the affair.

In the recent poster competition the Hoe Company awarded prizes for four of the winning posters, and these were reproduced by the Grinnell Lithographic Co., New York, and have been widely distributed.

#### Ink Makers Ask Help

In an effort to obtain quota exemption for the restricted materials going into litho and printing inks which are used for government agencies, ink manufacturers are now asking lithographers and printers to show, whenever possible, the use to which the ink is put. The following table of end-use symbols have been suggested for use on ink orders which can be exempted from the ink maker's quota. These have been distributed to manufacturers by the National Association of Printing Ink Makers.

ARMY	.....A
NAVY	.....N
MARITIME COMMISSION	...M
PANAMA CANAL	.....P
COAST AND GEODETIC SURVEY	.....G
COAST GUARD	.....C
CIVIL AERONAUTICS AUTHORITY	.....C.A.
NATIONAL ADVISORY COMMISSION FOR AERONAUTICS	.....N.A.
OFFICE OF SCIENTIFIC RESEARCH AND DEVELOPMENT	.....S
WAR SHIPPING ADMINISTRATION	.....W
DEFENSE PLANT CORPORATION	.....D
GOVERNMENT PRINTING OFFICE	.....G.P.O.
BUREAU OF ENGRAVING AND PRINTING	.....E
GOVERNMENT OF CANADA	.....G.C.
LEND-LEASE (anywhere)	...L.

#### Lanston Pioneer Dies

George W. Little, pioneer in type-setting machines and first employee of the Lanston Monotype Machine Co., Philadelphia, died during February. He had been employed by the company continuously for 52 years, and helped Tolbert Lanston build the first operating model of the Monotype machine which was shown at the World's Columbian Exposition.

#### Dies in Army Air Crash

Capt. Charles C. Johnson, III, son of Charles C. Johnson, Jr., creative manager of the Stafford-Lowdon Co., Fort Worth, lithographers, died during February in an air crash at Tonopah, Nev. He was the commanding officer of an Army Air Forces fighter squadron training for overseas duty.

#### Craftsmen Hear Safety Talk

Harry Guilbert, safety director for the Pullman Co., was the featured speaker at the March meeting of the Chicago Club of Printing House Craftsmen.

Considerable interest was shown by those present in the exhibit of 12 portfolios comprising the Wartime Printing Library, assembled by the Miehle Printing Press and Mfg. Co., to support the government war aims and the program of the Graphic Arts Victory campaign. The display was arranged by the club's Exhibits Committee, whose chairman is George Skach of the H. J. Schultz Litho Co. New members initiated at the meeting included Donald Rein, production manager of the Chicago branch of the Citizen-Courier Co., and Gordon MacQuaker, laboratory superintendent of American Printing Ink Co.

#### LNA Appoints Broun

The appointment of William L. R. Broun as executive assistant to W. Floyd Maxwell, executive secretary, has been announced by the Lithographers National Association, New York. Mr. Broun will assist in the handling of governmental material, help in the preparation of bulletins for the association's members, help with trade inquiries and take part in the educational program.

Mr. Broun has experience in trade association, legislative-analysis, newspaper and public relations work.

#### Dr. Carl Moehle Dies

Dr. Carl E. Moehle, retired president of the Moehle Lithograph Co., Brooklyn, died March 24. He was 81. Dr. Moehle was a native of Germany, and although, he held a medical degree from the University of Illinois, he did not practice medicine. He retired from active work in the lithographing business in 1930.

#### Daughter of Carey Dies

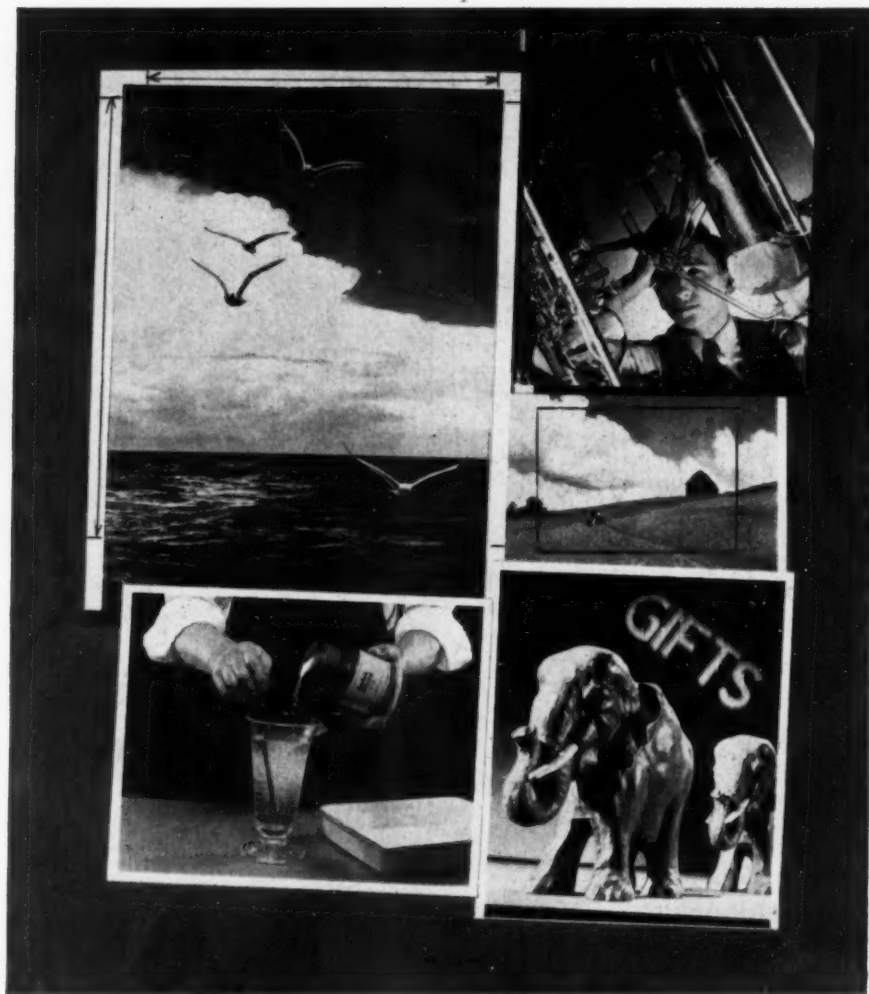
Carol Carey, six, daughter of William Carey, sales manager of the Sweeney Lithograph Co., Belleville, N. J., died March 7 from an infection. Mr. Carey was recently elected president of the New York Litho Club.

#### MODERN LITHOGRAPHY



Several pieces of copy,  
placed close together on  
the copyboard, ready for  
one halftone exposure.

## FILLED TO CAPACITY



*"Gang" exposures can help you conserve your  
supply of Kodalith and Kodagraph Films*

STRETCH your supply of Kodalith and Kodagraph Films by combining a number of jobs in one exposure. Make one sheet of film do the work of three or four.

Sort the orders with "gang" exposures in mind. Excessively large mounts should be cut away. Occasionally, part of a photograph, outside of the crop

marks, can be overlapped by other copy to help fill the negative space with productive work. The extra time spent on these preliminaries is far outweighed by the value of the film conserved.

And you can depend on the uniformity of Kodalith and Kodagraph Films to deliver first-quality negatives from these multiple exposures.

*Order standard film sizes from your Graphic Arts dealer*

*Graphic Arts Sales Division*  
**EASTMAN KODAK COMPANY, ROCHESTER, N. Y.**



## A POWERFUL FIGHTER PLANE *FULLY ARMED*

There is an obvious comparison between the fighter plane with full striking power and your presses with rollers that give maximum output of quality work.

Without complete armament, the cost to the men of the fighter crew may be their lives. Without good rollers the cost to you is a matter of dollars and cents, your reputation as a lithographer, and the waste in man and machine hours that are so precious during war times.

Fortunately, our planes are well armed. Experiment, research, inventive genius, and American industry have seen to that—just as your roller needs have been met.

Bingham's SAMSON (Vulcanized Oil) and Bingham LITHO-PRINT (Rubber) Offset Rollers have been tried and tested and made to a dependable standard. It is good business strategy to use Bingham Rollers. There is a factory convenient to you ready to make prompt deliveries.

## SAM'L BINGHAM'S SON MFG. CO.

Roller Makers Since 1847

**Manufacturers of Printers' and Litho-Offset Rollers**

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Minneapolis  
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Oklahoma City

Pittsburgh  
St. Louis  
Springfield, O.

# IN AND ABOUT THE TRADE

## WMC Group Hears Litho Essentiality Plea

**T**HE essential nature of the work being done by many lithographic plants in cooperation with the Army Map Service and other government agencies and direct war industries was brought before the Essential Activity Committee of the War Manpower Commission at a hearing in Washington, March 17. Before the committee, which is composed of representatives of the WMC, Selective Service, Army, Navy and Dept. of Agriculture, E. W. Palmer, Deputy Chief of the Printing and Publishing Branch of the War Production Board, presented a brief which outlined the position of the entire printing industry, and asked that some 60,000 men out of a total of 262,000 be considered for deferment as necessary to the carrying on of this industry. No definite action has yet resulted.

In Mr. Palmer's brief, the work being done by lithograph plants, occupied only a small part of the com-

plete presentation. A brief was also presented by the United Typothetae of America, outlining the case of the printing industry.

The importance of the lithographic industry to the war was stressed by Lt. Col. F. W. Mast, and Lt. Col. J. G. Strobbridge, of the Army Map Service. They pointed out that this year, 75 per cent of the Map Service's requirements must come from commercial lithographic plants, and further, that this year's requirements will be five to six times as great as last year. Others representing the lithographic industry, contributed oral information during the hearing, telling of the many other jobs being done continually by the industry for the war effort.

Among those present from the lithographic industry were Maurice Saunders, Lithographers National Association; Walter E. Soderstrom, National Association of Photo-Lithographers; William Winship,

Brett Lithographing Co., Long Island City, N. Y.; Harry Brinkman, Foto-Lith, Inc., Cincinnati; Benjamin Robinson, and William J. Riehl, Amalgamated Lithographers of America; and Charles Cosby, Label Manufacturers National Association.

Although no action on the essential rating of the lithographic industry has been taken, Mr. Saunders has released the following message which he received from the WMC: "Committee on Essential Activities wishes to inform you committee has clearly excluded printing and lithographing industry from its list of non-deferrable activities except those occupations specifically listed and non-deferrable regardless of activity in which they may be found. Would urge that your employees, except those engaged in occupations listed as non-deferrable, remain on their present jobs until such time as specified need for change has been indicated by War Manpower Commission." This message, which was distributed to the industry through the LNA and the NAPL was interpreted by those organizations with a memo as follows: "To all employees of draft age—This means, Don't be scared into leaving your job with the idea of getting into a more essential war industry. Right now you are more essential to the war effort in your present job than you can be in any other. If you are in doubt, talk it over with your employer."

## Giegengack Addresses 300 at Atlanta Meeting

**I**N connection with the opening of a Government Printing Office warehouse in Atlanta, Public Printer A. E. Giegengack met with 300 lithographers, printers, and allied tradesmen March 19, and outlined the new streamlined GPO plans for handling contracts through commercial printing plants. The meeting, one of the largest held by the graphic arts industry in that city, was attended by 300 persons from Georgia, Florida, Alabama, Tennessee, and the Carolinas.

Mr. Giegengack told of the new speed-up methods of paying for government printing, and described the operation of the Atlanta warehouse for facilitating the carrying out of

GPO contracts in the South. The text of his address was similar to those given by him in Chicago and New York and reported last month.

Earl T. McDermott, supervisor of the Atlanta warehouse, which is located at 113 Courtland St., N.E., was introduced to the meeting, as was also Deputy Public Printer Deviny. Speakers were introduced by Charles W. McNelley of the Atlanta Craftsmen's Club, and John M. Cooper of the Atlanta Master Printers Club, sponsoring groups.

Mr. Giegengack has previously announced similar meetings to be held later on in connection with the opening of warehouses in San Francisco, Dallas, and Baltimore.

### Praise Guide Book

Government officials praised the "Guide to Essential Wartime Printing & Lithography" at an all-day conference in Washington March 26, attended by representatives of 15 trade associations, 10 trade magazines, and other allied graphic arts activities. The 64 page guide book, recently published by the Graphic Arts Victory Committee is now being distributed.





## SIGNS OF SPRING

We hope your troubles this year won't be any more serious than poultry in the parsnips but, if you are raising a fine crop of 1-A's in your platemaking department, better ask about Pitman's Platemaking Specialties. They help green hands make the grade. Most Pitman Specialties come ready-for-use and save much time that might better be used in production.

PITMAN DEEP ETCH PROCESS

PITMAN PREPARED ALBUMIN COATING SOLUTION

PITMAN PREPARED PLATE ETCHES

PITMAN DOUBLE STRENGTH FOUNTAIN SOLUTION

PITMAN BLU-PRINT PROCESS

PITMAN BLACK-PRINT PROCESS

### HAROLD M. PITMAN COMPANY

51st AVENUE AND 33rd STREET  
CHICAGO, ILLINOIS

150 BAY STREET  
JERSEY CITY, N. J.

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WASHINGTON, D. C.



## N. Y. and Eastern Groups Hear Manpower Talk

**N**EARLY 170 lithographers attending a joint meeting of the Eastern Lithographers Association and the New York Photo-Lithographers Association were told that they should make full use of the various methods at their disposal to obtain draft deferment of irreplaceable men. The speaker was Bernard Sless, Regional Occupational Analyst of the War Manpower Commission. The joint dinner meeting was held at the Building Trades Club, New York, March 18.

The Replacement Schedule designed by the WMC and the Selective Service System for the orderly replacement of non-deferrable employees was described by Mr. Sless, and many lithographers indicated that they were not familiar with the workings of this plan. (Complete details of this plan are included in the article beginning on page 16.)

Mr. Sless also pointed out the importance of filing forms 42A and 42B when deferment is sought for a man who is irreplaceable, as this is often postponed until too late to hold a man. He stated that local draft boards are often not informed on the type of work a man does, and that in asking deferment the man usually emphasizes his family responsibilities rather than the type of work he or his plant is doing.

The importance of government contracts or war work in litho plants was emphasized a number of times during the evening, and the general opinion was that this was usually the measurement of a plant's essentiality. It was said that a firm without war work is not always entitled to consideration from the draft boards.

Maurice Saunders, chairman of the board of the Lithographers National Association, was called upon for an impromptu talk and told of the work being done in Washington in conveying information to the government as to the highly important war

work being done in the lithographic industry. Since a large part of this work is done on "emergency orders," he pointed out how important it is to keep the lithographic firms in operation in order to handle these important emergencies.

D. R. Morean, American Colortype

Co., president of the Eastern Lithographers group, presided, and introduced the speakers.

### Riley to Move

F. J. Riley Printing Co., Chicago, combination shop, which has occupied quarters at 501 S. LaSalle St., for 30 years, has leased the ninth floor of the Keogh Building, 732 W. Van Buren St., containing approximately 20,000 sq. ft. of floor space, to which it will move shortly.

## "Old Timers" Return to Jobs in Manpower Crisis

**T**HREE veterans of many years of lithographic craftsmanship, all over 74 years of age, have returned from retirement to their old jobs at Niagara Lithograph Co., Buffalo, N. Y., to help that firm solve its manpower problem. The veterans are Carl Aldag, 74, Philip J. Papp, 75, and George Traub, 79.

Before retirement Mr. Aldag had worked for the company 45 years, Mr. Papp had been at Niagara for 42 years, and Mr. Traub 39 years. Mr. Aldag and Mr. Papp were originally crayon and stipple artists who later became proficient in the more

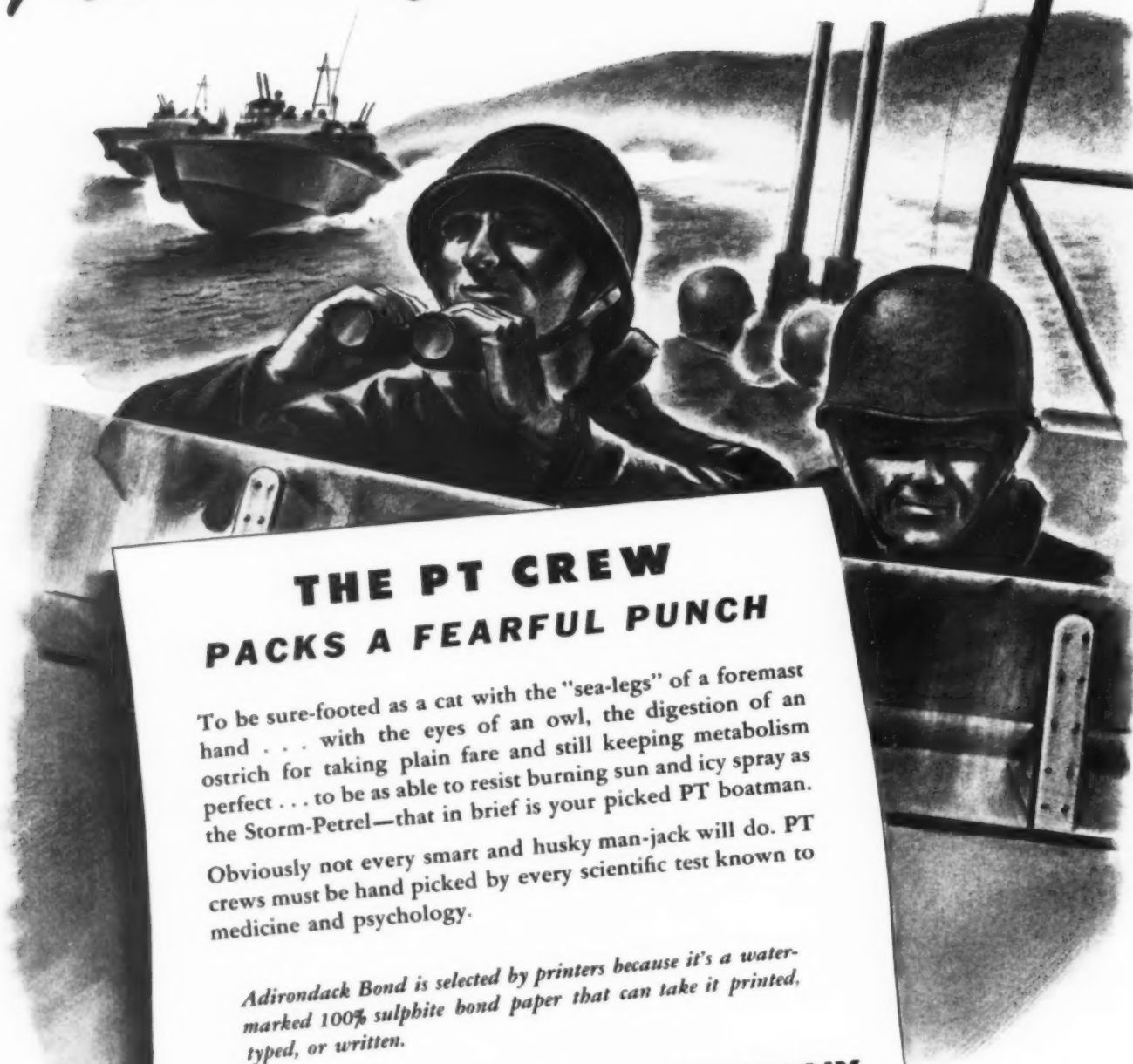
modern methods of lithographic reproduction. Mr. Traub began many years ago as a stone grainer and polisher, later working with the graining machines which grind and polish glass and metal plates.

John McW. Reed of the Niagara company, in telling of the return of these men, said, "They all asked to be allowed to return to us, feeling that they could help the war effort by taking the places of some of the younger men who have been called to service. It is an inspiration to the rest of us to have them back."



Horace Reed, president and founder of Niagara Lithograph Co., Buffalo, is shown above as he welcomes three veteran employees who are returning from retirement. They are, left to right, Carl Aldag, 74, Philip J. Papp, 75, and George Traub, 79. Mr. Reed is 73.

# Picked for the job!



## THE PT CREW PACKS A FEARFUL PUNCH

To be sure-footed as a cat with the "sea-legs" of a foremast hand . . . with the eyes of an owl, the digestion of an ostrich for taking plain fare and still keeping metabolism perfect . . . to be as able to resist burning sun and icy spray as the Storm-Petrel—that in brief is your picked PT boatman.

Obviously not every smart and husky man-jack will do. PT crews must be hand picked by every scientific test known to medicine and psychology.

*Adirondack Bond is selected by printers because it's a water-marked 100% sulphite bond paper that can take it printed, typed, or written.*

### INTERNATIONAL PAPER COMPANY

220 East 42nd St.  New York, N. Y.

PAPERS FOR PRINTING AND CONVERTING

**BUY MORE  
WAR BONDS**

## Chicago Art Show Features Many Litho Media



**H**IGH praise for the quality of the commercial art which is being produced by midwestern advertising agencies resounded at the annual exhibition sponsored by the Art Directors Club of Chicago at that city's Art Institute during March.

Contrasted with mediaeval church architecture and knights in armor, the modern display was hung in the Institute's Renaissance Gallery. Over 300 examples of advertising art were entered in six classes, mass, class and trade magazines, newspapers, direct mail and catalogs, and posters. Twenty-three medal awards and honors were distributed in these classes. Chief interest in the show, however, centered in the special class of "Victory Art," selected from the 300 entries and judged by a special jury whose chairman was R. Hunter Middleton, art director of Ludlow Typograph Co., and whose members represented all branches of the military services.

Top medal awards for posters deemed to have made the best direct contribution to the war effort went to two products of the Ben W. Schenker Agency, Chicago, whose art director is Victor B. Wells. For the poster "This Is America," Armstrong Roberts was the artist and Henry M. Peavey retoucher. The other medal

award, for the poster "Produce For Victory," recognizes the work of Harold Osbar, artist and Mr. Peavey, retoucher. Lithographing of both posters in four-colors was done by R. & L. Lithographing Co., Milwaukee, Wis., for the Sheldon-Claire Co., Chicago.

McCann-Erickson agency, whose art director is Michael Sarisky, won a medal for a Standard Oil Co. of Ohio 24-sheet poster, the artist of which was Howard Scott. Awards in the direct mail class were made on the basis of color, effectiveness of design of complete folder or booklet and design of educational portfolio. Numerous winners were produced by offset.

### Baltimore Club Hears Sayre

Methods used in the training of women camera operators, platemakers and press operators in the Army Map Service, Washington, D. C., were described by Mrs. Irene H. Sayre at the March 15 meeting of the Litho Club of Baltimore. Mrs. Sayre, technical editor of *Modern Lithography*, is in charge of the training of women for this work in the Army Map Service, and also instructs Army officers in the technical aspects of lithography.

She told of the intensive technical training given to these civilian

women, none of whom have ever had any experience in the printing industry. The women are put through courses covering not only operation of the equipment but also its construction and theory. Mrs. Sayre gave more attention to the women press operators who, she said, are placed in complete charge of the presses and have established a good record of production. They handle their own paper, make their own press adjustments, and are especially good on color, she stated.

The women camera operators are achieving high production, and can handle all types of negatives, including continuous tone, halftone, magenta, line and combination and in general, the women employees are more conscientious in their work, Mrs. Sayre asserted.

Business of the evening included the passing of an amendment to the by-laws enlarging the number of associate members which may be admitted to the club. A number of committees were announced. They included: Program—Otto Molz, American Bank Stationery Co., Henry Eggert, H. P. Davis Co., and Edward Steinwedel, Crown Cork & Seal Co.; Membership—Edward Parker, The Parker Metal Decorating Co., William Garten, Tin Decorating Div., Owen-Illinois Glass, and Tom Ford, Harrigan Roller Co.; Entertainment—J. T. Murnane, Pittsburgh Plate Glass, Herman Engel, and Andrew Panuski, Crown Cork & Seal, and T. King Smith, Gamse Lithographing Co., who is the club's secretary; Visiting—Michael A. Flynn, International Printing Ink, Walter Knecht, Charles Eneu Johnson, and Alexander White, Maryland Lithograph Co. In each case the first person listed is the chairman.

The club's next meeting is scheduled for Monday, April 19, at the Hotel Emerson, where the March meeting was held.

### Detroit Firm Has Contest

Walker & Co., outdoor advertising firm of Detroit, is holding its fifth annual poster art competition for school students. War themes are being stressed.





# Masterline

## PAPERS FOR BUSINESS

*Permanence, Character, Beauty  
in these All-Rag and Rag-Content Papers*

ANNIVERSARY BOND  
SINCERITY BOND    OLD BADGER BOND  
ENGLISH BOND    NEW ERA BOND  
MASTERLINE OPAQUE BOND  
RIGHT OF WAY BOND    DICTATION BOND



LEDGERS  
ONION SKINS  
MANUSCRIPT COVER



*The Right Paper for the Job  
is a Masterline Paper*

FOX RIVER PAPER CORPORATION  
APPLETON WISCONSIN

## New York Club Gets Maintenance Pointers

**T**HE nearly 80 members and guests who attended the March 24 meeting of the New York Litho Club heard three speakers cover many phases of lithographic equipment maintenance. Speakers were William Heiser, Harris-Seybold-Potter Co., Robert Veith, Rutherford Machinery Co., and Ted Makarias, Brett Lithographing Co.

Mr. Heiser emphasized the importance of oiling presses thoroughly and cleaning at the same time to eliminate dripping oil, grit and other matter that often causes trouble. Also the greasing of gears, even though they are encased in guards, should be done regularly, he said. Oil must be kept clean, as grit can ruin a bearing, and the oil should also be of the correct viscosity, he stated, and warned of trying to oil a press while it is in motion.

Mr. Veith discussed the care of photo-composing and other photo-mechanical machines, and he too emphasized the necessity of thorough cleaning and oiling of all moving parts regularly. He recommended the cleaning of the entire machine once each week with a good solvent, removing all old oil and grease. Lubrication should not be left to a fly-boy or floor-sweeper, he said, but is an art and must be done right.

The final speaker was Mr. Makarias whose discussion brought considerable favorable comment and aroused a number of questions. He dealt with press plates, and told how the life of a plate may be prolonged by avoiding unnecessary bending and pulling. On color jobs, if the first color plate is not pulled too tight, then succeeding plates will not have to be pulled so tight, he pointed out, and condemned the use of force to tighten a plate. He emphasized the importance of register marks on plate and press cylinder, lined up with the step-and-repeat machine, as a method of saving time in getting register on the press. By this method it is not difficult to get the register on

a two-color press on the second lay sheet, he asserted.

As for blankets, they must be perfectly square, he said. In most cases blankets are also pulled too tight, and any blanket, new or old will need to be patched when this is done. "The worst thing for a blanket is soaking up the canvas back," he said, and added that the worst solvents for blankets are kerosene and turpentine. Dripping oil is another

condition to watch, he pointed out, as a drop of oil on a blanket will make spots. He appealed for less ink manufacturing in the pressroom, stating that litho inks are expertly made and cannot be improved upon by the average pressroom "secret formula."

Chester Lucas, Industrial Lithograph Co., and Adam Ackerman, Zeese-Wilkinson Co., new members, were introduced.

April plans for the Litho Club include a joint meeting April 14 with other local graphic arts groups, and the regular April meeting on the 28th.

## Name Offset Paper Best of Army Publications



Major General Jarman is shown here holding the award trophy. Facing him is Major Griffin, editor. Others are staff and production men.

**A**N OFFSET weekly newspaper, *America's Alertmen*, publication of the Anti-Aircraft Artillery Command at Fort Totten, N. Y., was awarded the grand prize in the competition for the best newspaper published in the military camps and commands, March 30. The contest was sponsored by the Camp Newspaper Service of the War Department and included 350 newspapers of many camps.

In addition to the grand prize, awards were also made to papers produced by the various reproduction processes, and winner in the offset field was the *Beacon*, published at Baer Field, Indiana.

Major George W. Griffin, Jr. is

editor of *America's Alertmen*, and Major Gen. Sanderford Jarman is the commanding general of the AAA Command. Gen. Jarman in accepting the award said that the paper was started in March 1942, and reaches thousands of troops under his command at isolated posts along the Atlantic coast. The paper is self-sustaining, being supported by subscriptions.

Major Griffin is a former public relations man for General Electric Co. The paper is produced on a 17 x 22 press, Major Griffin said. It is 10 x 16 and averages 12 pages per issue. Front cover is in two colors. Composition is by a justifying typewriter.



*This is  
our challenge  
to your customers:*

**ASK YOUR PRINTER—  
HE KNOWS PAPER!**

*The advertisement  
on the left is one of a  
campaign appearing in*

**TIME**

**UNITED STATES NEWS  
BUSINESS WEEK**

*When you want to know*  
**GO TO AN EXPERT**

DON'T TAKE our word alone for the fact that Rising papers will give your business letters the presence and authority they deserve.

Get your printer's impartial opinion. He knows how important it is to use the finest quality paper to get the finest printing results. That is why for years we have been supplying these same experts with papers for letterheads as well as many other specialty uses.



You will find you pay no more for Rising quality. Three grades: Rising Bond (25% rag), Rising Line Marque (25% rag), Finance Bond (50% rag), Rising Parchment (100% rag). Prices on a par with other quality papers. The Rising Paper Company, Housatonic, Mass.

**ASK YOUR PRINTER—HE KNOWS PAPER**



## Chicago Area Reassured by GPO on 48 Hour Week

CHICAGO lithographers who were concerned, at first, about recent War Manpower Commission orders applying to that area, have been assured that the rule forbidding the placement of new government contracts where labor shortages prevail, will not apply in the printing field. The WMC orders placed a section of the city south of 82nd Street, in a "Group 1" classification beginning May 1, when a 48-hour week is mandatory for all businesses employing eight or more persons. The larger portion of the city, together with nearly half the state extending from the northern boundary to Springfield, in the center of the state, was, at the same time advanced to a "Group 2" classification which, if normal procedure is followed, means the transfer within six months to the critical "Group 1" class.

In a statement to *Modern Lithography*, Robert W. Teague, director of the Government Printing Office's Chicago branch warehouse, said the rule

barring new war contracts in the Group 2 area, as long as production facilities are available elsewhere, applies only to industrial plants producing tanks, planes, guns and similar war material. The G. P. O., he explained, is producing printing for the Treasury, State, Commerce and other departments, the O.W.I. and other agencies. This he said, is not considered "war work," as far as the work-week is concerned, and under this interpretation of the rule there will be no cessation of contract-placing for printing in the Group 2 area, Mr. Teague stated.

Incidentally he revealed that, because Chicago lithographers are running to capacity, he was forced into the position of "begging" them to handle new work. He had spent two days, at one time in March, he said, trying to place an offset job for 4,000,000 folders, the "bottleneck" in the case being the lack of folding equipment to handle the specifications.

## Printers and Buyers Move to Conserve Paper

REPRESENTATIVES of the printing industry through the United Typothetae of America during March placed before the War Production Board a voluntary conservation plan which seeks to eliminate "frills" in printing and effect a ten per cent saving in paper.

The committee presented the 82-page report to E. W. Palmer, Deputy Chief of the Printing and Publishing Branch of the WPB. The basis for the immediate reduction in the use of paper is a further standardization of weights, grades and sizes of paper stock, rather than a flat curtailment of tonnage. Many of the sizes, weights and other measures of paper stock used in the industry could be eliminated, the report said, in pointing out that there are more than 12,000 "kinds" of paper. This includes

size, weight, color and other measures. These could be reduced to 4,000, thus saving tonnage and manpower for shipment and distribution. Too many variations of paper result in waste in manufacture and distribution, it stated.

With the industry already operating under a ten per cent reduction in use of paper, the study seeks to meet the second government cut, scheduled for July 1, by a voluntary industry plan.

While the printing industry was seeking to reduce paper consumption, buyers of printing, on the other hand, were also suggesting conservation methods. Meeting in New York, March 18, the paper committee of the National Association of Purchasing Agents urged its members to change paper specifications

immediately to effect savings. A report was presented which declared that only a degrading of materials will permit the paper industry to furnish 14,500,000 tons this year. It stated that total wood pulp output this year will be only 8,500,000 tons, while demand will be for 14,500,000 tons. The committee suggested a greater use of de-inked book papers, greater amounts of various other grades of waste paper, slightly more clay in papers but not exceeding five per cent in fine papers, and the use of ground wood pulp in many types and grades of paper where it has not been permitted in the past.

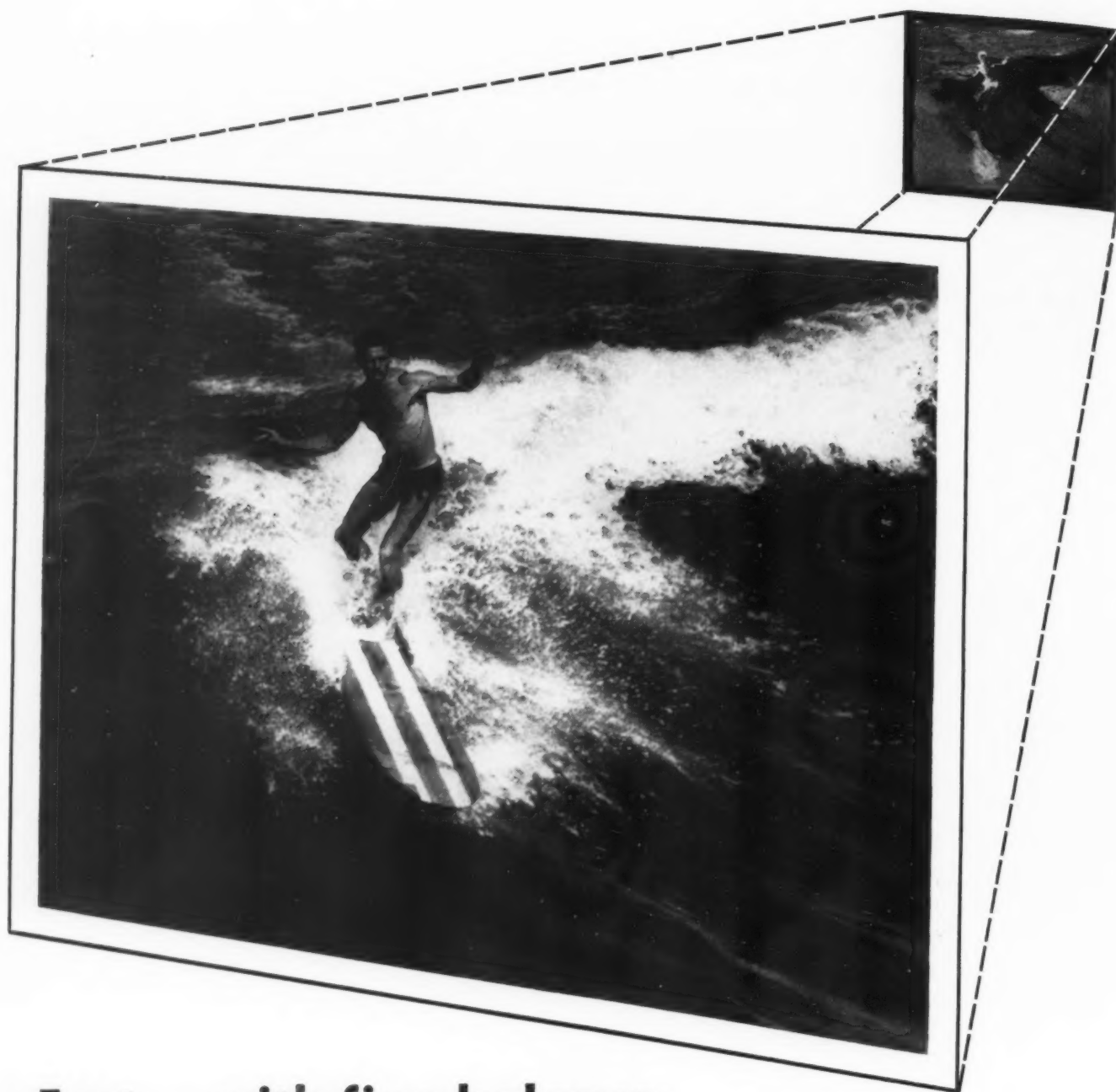
### Clarify "Book" for Music Printers

Because many lithographers and other music printers have questioned the definition of the term "book" under War Production Board Limitation Order L-245, Gordon McGarry, executive secretary of the National Music Printers and Allied Trades Association, New York, has obtained a clarification from the WPB. Mr. McGarry's announcement follows:

"The reply from the War Production Board states that 'the items which were most specifically in mind when 'loose leaf' books were included in the definition of Order L-245 were such things as legal services where a book is sold to a subscriber with the understanding that loose leaf supplements would be issued periodically to supplant or amplify various sections of the text. A typical example of such a loose leaf book would be anyone of the Prentice-Hall Services, Wire-O or Spiral binding books of 32 pages or more would also come within the framework of this order as would ring binder units containing 32 or more pages issued in their original form. Supplements to such services are also included in the definition of L-245 as you will note in the last three lines of the definition for a 'book'."

### Maxwell to Return Soon

W. Floyd Maxwell, executive secretary of the Lithographers National Association, who has been absent from his office for a rest, is expected to return to New York about the middle of April, according to Maurice Saunders, chairman of the board of the association, who has been in active charge in Mr. Maxwell's absence.



## Fast...with fine balance

**B**OTH Reprolith and Reprolith Ortho Films can be developed in  $1\frac{1}{2}$  minutes to produce the sharp, faithful dot structures for which they are famous.

In addition, the speed of Reprolith Ortho has been increased 50% in all production since early this year.

These are important advantages but equally important is the fact that they have been attained without loss of the fine balance of other characteristics for which all Reprolith films are famous. Both films still provide exceptionally wide developing latitude, great resolving power and brilliant contrast.

Besides Reprolith and Reprolith Ortho, there are four other

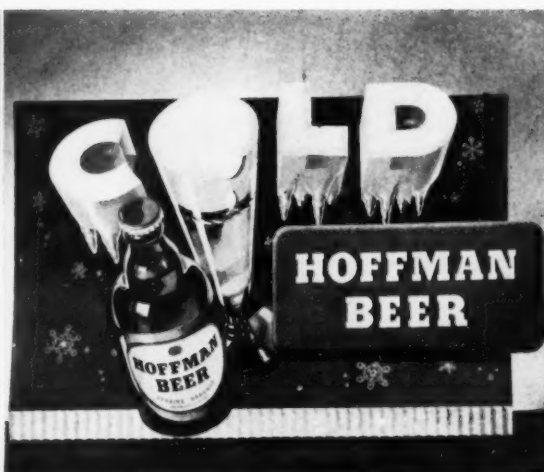
types of Reprolith films—six types in all to meet your various requirements for line or screen or for black-and-white or color work. **Agfa Ansco, Binghamton, New York.**

# Agfa Ansco

## REPROLITH FILMS

KEEP YOUR EYE ON ANSCO—FIRST WITH THE FINEST

## Lithographed Displays Win Awards in All-America Package Show



SEVERAL lithographed window displays were among the prize winners in the All-American Package Competition, which were announced April 1. At the left above is the award winning display designed and produced for Libbey-Owens-Ford Glass Co., by Kindred, MacLean & Co., Inc., Long Island City, N. Y. It

is three-dimensional, the figure of the man being in a separate plane, although it is packed flat. At center is a Hoffman Beverage Co., display produced by Einson-Freeman Co., Long Island City, N. Y., which was another prize winner. At the right is shown a display for Canadian Club, designed by N. C. Wyeth, and pro-

duced by Ketterlinus Lithographic Mfg. Co., Philadelphia. A feature of this display is the painting of Columbus which is framed in a heavy-weight board and can be removed from the display after it has served its purpose. A cord on the back of the painting allows it to be hung as a separate piece.

### Supply Salesmen to Meet

A steak dinner is planned by the Printing Supply Salesmen's Guild, New York, at Churchill's Restaurant in the airlines terminal Monday, April 19. Arthur Tarling, Sinclair and Valentine, head of the entertainment committee, stated that sirloin steaks are guaranteed for at least the first 50 to reserve places. The program includes election of a nominating committee and a visit to the Graphic Arts Arsenal exhibit.

### Chicago NAPL Discusses Supplies

Problems of priorities and how to operate under wartime control measures affecting lithographers' supplies were discussed at the meeting of the Midwestern division of the National Association of Photo-Lithographers in Chicago, April 6. The open forum, devoid of set speeches, followed a dinner in the Chicago Bar Association club rooms. The meeting was arranged by W. A. Krueger of the W. A. Krueger Co., Milwaukee, Wis., and Miss Jessie Kehoe, of Kehoe &

Lau, Chicago, both members of the N.A.P.L. national board of directors. Mr. Krueger presided. Because lithographers are so completely pre-occupied with unusual operating difficulties that meetings are difficult to arrange, a plan was discussed for continuing the Chicago N.A.P.L. sessions at irregular intervals. This, it was felt, would give opportunity for discussion and exchange of experiences on common problems of immediate urgent nature as they arise from time to time.

### Firm Gives Ten Million Stickers

American Decalcomania Co., Chicago, made a contribution to the war effort recently in producing 10,000,000 stickers for use in the campaign to salvage kitchen fats and greases. The gummed stickers, 2 x 3 inches in size, are in two colors with oil varnish finish. Three runs were required to complete the job. The company, whose president is George M. Eisenberg, delivered the stickers to the Chicago salvage committee free of charge.

### Perfects Jeep, Tank, Sub Decals

Research work by American Decalcomania Co., Chicago, has resulted in development of a new type of decal which, President George M. Eisenberg of the company stated, more fully meets government demands for their use under peculiar conditions. Previous types of decals failed to adhere properly to jeeps, tanks, aircraft and submarines on which they were applied, the trouble being due to the nature of paints used on this armament. The new decals include a "softening agent" which softens the hard painted finish and permits instant and thorough welding of the decal to the equipment's surface. Mr. Eisenberg explained. Camouflage requirements also had to be solved and pigments used in the decals are now such that identifying marks on jeeps, tanks, etc., are not legible in aerial photographs.

### Plan Annual Meeting

The New York Employing Printers Association plans its annual meeting May 21 at the Hotel Commodore.



## BEHOLD THE FACE OF THE NATION!

Today, everything reflects the strong, grim, resolute spirit of the people . . . as our fighting and toiling millions drive toward the mightiest decision since the founding of the Republic. Gone are frills and frivolities. Miraculous has been the transformation of industry . . . gigantic its production of weapons potent to determine the issue of battles and win through to complete victory and durable peace. Wonderful has been the will of the people to accept sacrifice . . . to impose upon themselves the discipline which is of the essence of democracy . . . to forget personal considerations and human preferences and to assume the burdens and meet the hazards which beset our path.

Still, there remain the irreducible needs of the Present . . . and our dreams for a grander Future beyond the years of storm. *How is American business using paper and printing to play its part—its vital part—in these extraordinary times?* You will find a thrilling answer in the new WESTVACO INSPIRATIONS FOR PRINTERS No. 140, which is built upon the theme: "The Face of America." It is now ready. Your printer will be glad to supply you with a copy. Call him today!

PRINTERS OF AMERICA! Buyers of printing will see this insert, with copy exactly as shown above, in the May issues of a group of advertising magazines. Be ready to supply copies of Westvaco Inspirations for Printers No. 140 to all who request them. A supply will be sent you by your Westvaco Distributor on request.

*West Virginia Pulp and Paper Company*


NEW YORK

CHICAGO

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SAN FRANCISCO

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REFLECTIONS ON A SHOP WINDOW  
By Aaron Bohrod



*Inspirations for Printers No. 140*

# FIRST

*among lithographic trade papers*

Modern Lithography is first in paid circulation among lithographic trade papers, according to figures for the six months period ending December 31, 1942, just issued by the Audit Bureau of Circulations. The figures show Modern Lithography has increased its lead and now has 16 per cent more paid subscribers than the second publication. The total net paid figures are Modern Lithography—2,185; Second Publication—1,879. Modern Lithography numbers 237 more subscribers among lithographic plants and their employees than audit reports show for the second publication.

**War Conference Issue**

The May issue of Modern Lithography will be issued to tie in with the important national War Conference of the Lithographers National Association in Chicago in May. Plan now to be represented in this issue.

**ml**

## MODERN LITHOGRAPHY

254 WEST 31st STREET, NEW YORK



## North African Labels Reveal Tides of War



**A** COLLECTION of canned food labels gathered by an alert American soldier ex-printer in North Africa has reached the United States and provides a remarkable story of the ebb and flow of the war in that theatre. The labels were acquired by the Label Manufacturers National Association, Washington, and have been reproduced in a 24 x 36 lithographed token-piece in five colors. (See above). The labels were taken from cans in the much-captured and recaptured food stores in Africa and are from foods packed in 11 different nations, including both Allies and

Axis. Some had obviously been abandoned by retreating Axis forces.

It was noted by the label association that all of the 36 original labels were lithographed or printed in full color and came from countries which have been at war much longer than the United States, except two labels from the U. S. which were produced in one color. Even labels for Australian "rations" are produced in full colors, it was pointed out.

The lithographed reproduction of the labels was produced for the association by Independent Lithograph Co., San Francisco.

## Lithography on Wheels Meets Air Force Needs

**M**UCH talk and few facts have marked the subject of the U. S. Army's mobile lithographic units, but the Army has now broken a long silence and told about a typical unit operating out of Mitchell Field, N. Y. It is operated by the Corps of Engineers.

This litho unit which produces maps for bombers or propaganda

leaflets for dropping over enemy territory, is contained on a train of trailers and trucks, and is described as a \$2,000,000 Mobile Reproduction Train. It is a complete lithographic plant operating on three ten-ton trailers and four two-and-a-half ton vans, and can move as fast as 300 miles in ten hours over rough terrain.

Modern litho equipment is used,

all electrically operated by power from six gasoline driven generators. The complete process is handled, with cameras, through the intermediate steps to two small size presses. Three of the trailers are air conditioned to insure constant temperatures and humidity for most efficient handling of paper and chemicals. One trailer contains an electric refrigerator for storing certain materials. The trucks also carry a two- to three-day supply of water and have equipment for purifying more if the need arises. They also have fire fighting equipment and a complete inter-truck telephone system for keeping in touch with each other and with headquarters.

Two officers and 74 men are assigned to the unit, and each is provided with light arms. In the field the massive outlines of the trucks and trailers are concealed by camouflage.

## Contest Closes May 1

Entries for the Art Poster competition sponsored annually by the McCandlish Lithograph Corp., Philadelphia, must reach the company's office by five p.m. May 1 in order to be accepted, and subjects this year are limited to war bond and Red Cross promotion. Four prizes are offered, with a top prize of \$500 in war bonds.

## Ink Container Wins Prize

The paper container in which are marketed the printing ink and other products of the E. J. Kelly Co. Kalamazoo, Mich. was an award winner in the 12th Annual All-America Packaging Competition April 1. Winning factors included simplicity, substitution and conservation. The container is spiral-wound, manufactured by the Sealright Co.

## Committee Seeks Typewriters

M. L. Griswold, Rogers-Kellogg-Stillson, Inc., New York Lithographers, has been appointed chairman of a group of graphic arts committees for the New York area to assist the government in obtaining surplus typewriters. The work is being handled through the New York Employing Printers Association.



## *When the operation is a delicate one*

### **DU PONT "PHOTOLITH" FILM HELPS SIMPLIFY IT**

The high resolving power of DuPont "Photolith" Graphic Arts Film assures a satisfactory job. It gives you sharp, well defined lines and also forms excellent dots in halftones.

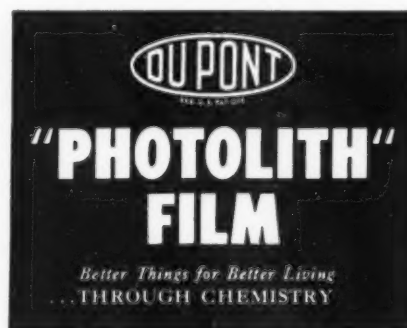
It will produce dense blacks throughout, contrasting sharply with the crystal-clear safety base.

*Uncle Sam* COMES FIRST... his orders must get preference. So be patient. If you have difficulty getting "Photolith" Film promptly . . . remember that your dealer is doing his best . . . often rationing his stock to meet current demands.

Du Pont "Photolith" Film is orthochromatic. It is sensitive to blue, blue-green, green and yellow. This permits using the regular color correction filters when colored or stained copy is at hand.

Plant foremen have full confidence in Du Pont "Photolith". They find that when the film comes out of the hardening solution the glossy emulsion surface is tougher and resists scratches. Its quicker-drying qualities—due to minimum water absorption—speed production. And the flat-lying characteristics of

the film facilitate making step-ups. "Photolith" Sheet Film is supplied in convenient "Lite-Lok" boxes. Roll film comes in non-scratching dispenser box. E. I. du Pont de Nemours & Co. (Inc.), Photo Products Department, Wilmington, Delaware.



### Promote Victory and Litho

The stickers and promotion, shown above, produced by Crocker-Union, San Francisco lithographers and printers, appeared recently as an insert in *Western Advertising*. "The



idea of printing a magazine insert on gummed stock with perforated stamps apparently was unique enough in itself to attract attention, and the thought expressed, plus the fine offer, gave it a wide acceptance," Frederick E. Keast, advertising and sales manager of the firm stated. Crocker-Union, composed of the H. S. Crocker Co. and the Union Lithograph Co., specializes in labels, advertising, and stationery.

### To Hear War Correspondent

The lithographic trade of the New York area, under the sponsorship of six industry organizations will meet April 14 to hear Frank Gervasi, war correspondent and associate editor of *Collier's*. Mr. Gervasi, who has covered the war on many fronts scattered around the world, has spent considerable time as an accredited correspondent with the British troops in the battle of Egypt and Libya. He will discuss the military and political aspects of the war in the Mediterranean. The meeting will be held at the Building Trades Club.

Other features of the program will be a display of the Wartime Printing Library of the Miehle Printing Press & Manufacturing Co., and a

showing of the Miehle film, "Printing for Victory."

The meeting is under the auspices of the Young Lithographers Association, and the chairman will be William Winship, Brett Lithographing Co., president of that organization. Co-sponsors include the Lithographers National Association, the National Association of Photo-Lithographers, the New York Litho Club, Eastern Lithographers Association, the New York Association of Photo-Lithographers, and the Amalgamated Lithographers of America. C. P. Titsworth of the Miehle company is in general charge of arrangements.

### Litho Club Takes Joliet Journey

The Chicago Lithographers Club made its annual pilgrimage to Joliet, Ill., March 27, for the annual stag party with dinner and entertainment at the Elks Club. Over 100 Chicagoans were in the delegation whose number was augmented by others from offset houses in Joliet and nearby cities. For their April 22 meeting in Chicago, the Club has arranged an address by Leonard Knopf, president of the Meyercord Co., who will discuss management problems and possibilities for solving them through closer cooperation of management and labor.

### French Joins Engineers

Fred W. C. French, of the Lanston Monotype Machine Co., Philadelphia, and secretary of the Philadelphia Litho Club, has been granted a leave of absence to take a civilian position with the Engineering Corps of the U. S. Army. He took up his duties in Washington during March. He will serve as a technical advisor on matters of lithography and on photo mechanical equipment for related graphic arts processes. Mr. French has been with Lanston for six years.

### Plans Develop for Conference

Plans are going forward for the industry-wide War Conference being planned for May 10, 11, and 12 in Chicago, by the Lithographers National Association. The three-day sessions will be held at the Edgewater Beach Hotel.

### Philadelphia Club Sees Films

Two films "Curves of Color" and "Three Dimensional Seeing" were shown at the March 22 meeting of the Philadelphia Litho Club, at the Poor Richard Club. The former film



Joseph Winterburg, new secretary of Philadelphia Litho Club

produced by the General Electric Co., showed the operation of the recording photoelectric spectrophotometer which is used in the measurement of color. "Three Dimensional Seeing" was presented by E. I. du Pont de Nemours & Co. and illustrated how color can be used in industrial machinery to speed production.

Joseph Winterburg, of Phillips & Jacobs, has become the club's secretary, succeeding Fred W. C. French, who has taken a civilian position with the Army Engineers Corps, in Washington as reported elsewhere in this issue. Club President Walter A. Kaiser, Edward Stern & Co., presented Mr. French with a pen and pencil set as a token of the members' appreciation of his service. William J. Stevens, also of Edward Stern, club vice-president, introduced the speakers. Two new members were taken into the club. They are Joseph Mazzaferri, Graphic Arts Engraving Co., and James L. Mahoney, Joseph Hoover & Sons.

The next regularly scheduled meeting of the club is Monday, April 26. Included on the April program is the showing of the Miehle Wartime Printing Library and film.





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graphy. A copy sent free upon request.



## Reynolds Addresses Connecticut Litho Club

**N**EARLY 60 members, guests, and a special delegation of men from a nearby U. S. Army litho unit attended the meeting of the Connecticut Valley Litho Club, April 2 at the City Club, Hartford. It was the last of the club's regularly scheduled functions for the spring season.

Speaker of the evening's dinner meeting was Alger Reynolds, of Spaulding-Moss Co., Boston, who discussed many phases of plate regaining, one of the litho processes to which he has devoted considerable study and experiment. He reminded those present of the need for controlled graining in order to secure uniform results and also to conserve critical metal. He gave examples to illustrate, however, that pressroom practices of handling plates and of placing them on the press, often destroyed more plates than most graining operations.

Considerable color was added to the meeting by a number of officers

and "non-coms" from a Topographical Unit at Bradley Field, Conn., who attended at the invitation of Louis A. Tamb, Fuchs & Lang Mfg. Co., and were guests of the club. Other guests included three "Lady Lithographers" from Philip Hano Co., Holyoke, Mass. They were Mrs. Ruth Stevens, Miss Pauline Lancto, and Miss Gwendolyn Getler.

The April meeting marked the farewell appearance in the New England district of "Lou" Tamb before being transferred. Mr. Tamb is one of the founders of the club and has been prominent throughout its existence. During the past year he has served as chairman of the publicity committee.

New members elected by the board were announced. They were Ronald J. Bamber, Bradley Field, and Everett S. Utterberg, S. Fox & Co. Ralph Rich, Rich Lithographing Co., Chicopee Falls, Mass., president of the club, stated that a special summer outing may be arranged.

## Equipment Makers to Exhibit War Material

**"GRAPHIC ARTS ARSENAL,"** an exhibit of ordnance and other war matériel being manufactured by printing equipment makers, is being planned as the main feature of Graphic Arts Arsenal Week in New York, April 19 to 24. Printing and allied equipment manufacturers whose facilities are devoted to war production have cooperated with the U. S. Army Ordnance Department in planning the exhibit and also in arranging two industry-wide meetings during the week.

To the meeting announced for Monday evening, April 19, at eight o'clock at the Hotel Commodore, the Graphic Arts Industries of New York and vicinity are invited. Cards of admission may be obtained, without charge, through the secretaries of the various trade groups, or through representatives of the printing-equipment manufacturers. The program will include confidential war pictures, dem-

onstrations of mechanisms by Army technicians, and brief talks by distinguished speakers. No trade matters will be discussed.

A similar program will be given on Tuesday evening, April 20, for newspaper personnel.

Harry L. Gage, of Mergenthaler Linotype Co., is chairman of the sponsoring committee, and Gilbert Higgins, R. Hoe & Co., is treasurer. Members of the committee include R. B. Huddleston, American Type Founders; Charles Rundlet, C. B. Cottrell & Sons Co.; W. S. Reed, Dexter Folder Co.; Harry Mount, Goss Printing Press Co.; Harry Porter, Harris-Seybold-Potter Co.; Frank Sherman, Lanston Monotype Machine Co.; and William Mulcahy, Ludlow Typograph Co. The sponsoring group of firms includes, besides those named above, Duplex Printing Press Co.; Miehle Printing Press & Mfg. Co.; Mohr Lino-Saw Co.; Wood News-

paper Machinery Co.; and Vandercook & Sons. Other firms have been invited to participate, it was said.

## Study Training of Women

A program for the training of women to help fill the need for lithographic workers in the New York area is still being studied by Dr. D. J. MacDonald, educational director of the Lithographic Technical Foundation, in a continuance of the project launched recently by the New York Association of Photo-Lithographers. Dr. MacDonald reports that the survey being made by his organization, returns of which are still incomplete, indicates that the worst shortages in this area are in press operators, opaquers and strippers.

At the same time the National Printing Equipment Association is taking action toward determining the need for a training program for the graphic arts industry and is surveying association leaders for suggestions.

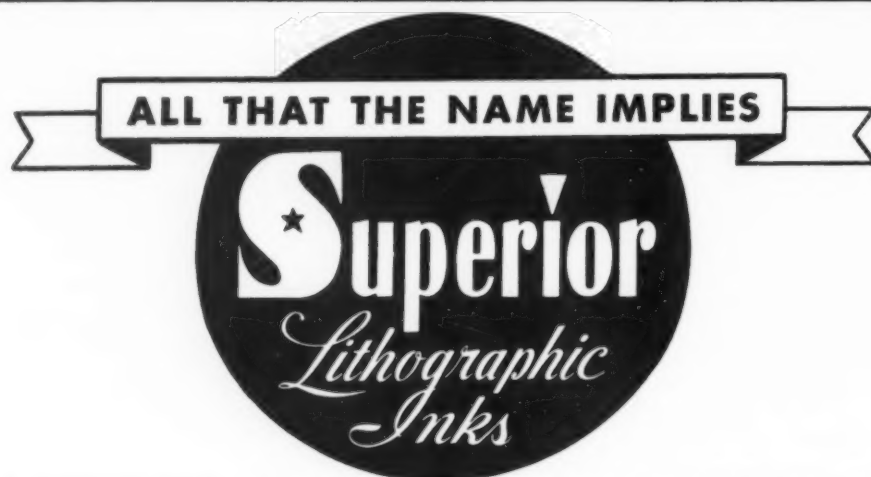
## Chicago Firms Try Women

Newman-Rudolph Litho Co., Chicago, is making use of a number of women for various jobs around the plant formerly handled by men. Several girls are used in the shipping room, others for hanging paper in the seasoning chamber and for inspection work on finished jobs. All are performing satisfactorily, a company executive said.

Another Chicago lithographer who experimented with female labor, gave it up, according to reports, after running into a "floating" type.

## Milwaukee Club Meets

The subject of varnishes and dryers was studied by members and guests of the Milwaukee Litho Club at the March 23 meeting. Ed. Gwin, Hellmuth Ink Co., was the speaker, and Club President Fred J. Dobbartin reports that the talk was "very interesting and educational and the meeting turned out to be a grand success." At the April 26 meeting, the speaker is to be Jack Bleumer of the Harris-Seybold-Potter Co.



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# NEW EQUIPMENT AND BULLETINS

## Warren Gives Paper Outlook

Although paper production may be restricted to 80 per cent of the base periods on July 1, present paper quality will be maintained, according to a booklet, "Probable Availability of Printing Paper," just issued by the S. D. Warren Co., Boston. The booklet takes several public statements made recently and evaluates them by tracing them to their source. Although July 1 appears as the probable date for the next curtailment of paper, this probability cannot be guaranteed, but it represents the current judgment of the Pulp and Paper Division of the War Production Board. This is the bureau that is best informed about paper, it states.

A small folder distributed with the booklet outlines the various paper restriction orders and their effects on printers and publishers.

## Carnegie Continues Courses

The Department of Printing at Carnegie Institute of Technology, Pittsburgh, has announced that it will continue to offer courses leading to the degree of B.S. in printing during the war emergency as long as students seek such instruction. Classes will be conducted on a year-around basis, permitting the completion of requirements for the degree in two and two-thirds calendar years. All courses normally offered by the department are now in operation with slightly reduced enrollment. The majority of students now registered in the department are on reserve status as potential members in one of the several branches of the military services.

## Publish Paper Facts

*Pertinent Paper Facts*, an information manual for paper selection, has just been published by M. M. Elish & Co. Written by Dewey Elish, it is described as a guide for the easy and accurate selection of the proper

grade of paper for correspondence, duplicating, advertising, and other printing and office uses. It covers a wide range of paper terms under the general types of paper in condensed form and non-technical language. The book is 5 x 7½ and contains 145 pages. It is priced at \$2.00 and is available from the publishers at 29 Beekman St., New York.

## Eastman Publishes Bulletin

*Bulletin for the Graphic Arts*, No. 2, has just been published by the Eastman Kodak Co., Rochester, and contains several articles on photo reproduction processes. Subjects included are: Photographs for Reproduction, Kodachrome Photography, Halftone Negative Making, Transfer Process, and Stripping. Requests for copies may be made on business letterheads to the Graphic Arts Sales Division of the Eastman company.

## Issues Color List

A check-list of color standards and color systems now used in American industry and science has just been issued in the form of a small folder, by General Printing Ink Corp., New York. The list covers 34 color standards from the Munsell system to camouflage, and gives a brief description of each along with concise source information for further reference. Copies are available from the company at 100 Sixth Avenue, New York.

## Ideal Issues Rubber Data

Information on rubber printing plates with special attention given to synthetics and substitutes that are now available is contained in a folder being distributed by Ideal Roller & Manufacturing Co., Chicago. The title is "Rubber plus Skill Equals Good Printing Plates."

## Issue Portfolio Showing Eagle-A Paper Line

The new Eagle-A portfolio is shown in this photograph.



A NEW portfolio displaying Eagle-A business and advertising papers is now being distributed by the American Writing Paper Corp., Holyoke, Mass., containing samples of 42 Eagle-A brands in swatch form.

An "Eagle-A Information Folder" giving condensed data on all lines is contained in a pocket. Also

in another pocket is an eight-page folder giving a list of Eagle-A service houses, paper suggestions, packing schedule and typewriter and boxed papers price list. Much factual information now available on fine papers is inaccurate, the company states, and this portfolio is designed to take the guess-work out of buying.

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### Lithos Top Red Cross Quota

New York Lithographers hit a total of approximately 10 per cent more than their assigned quota in the American Red Cross drive during the month of March, George E. Loder, president of National Process Co., and chairman of the lithography division of the Red Cross Drive, reported March 31. The lithographers' quota was \$16,000. Those assisting Mr. Loder in the drive included: H. C. Newell, Oberly & Newell Lithograph Corp.; Sidney Voice, Consolidated Lithographing Corp.; W. Morean, American Colortype Co.; C. W. Folks, Rogers, Kellogg, Stillson, Inc.; Robert Heywood, R. R. Heywood Co.; George Kindred, Kindred, MacLean & Co.; Edward Wilson, New York Lithographing Corp.; W. H. Walters, U. S. Printing & Lithographing Co.; George M. Goldsmith, *The National Lithographer*; Victor Friedman, Crafton Graphic Co.; J. B. Smith, Eastern Printing Corp.; A. Schultheis, Terminal Photo Offset Corp.; George Higgins, Dennison & Sons; and A. J. Fay, and Alfred Soman, National Process Co.

### Young Lithos Retain Officers

Present officers and directors of the Young Lithographers Association of New York will remain in office for another year, the members decided at the annual meeting held at the Building Trades Club, March 10. These officers are William Winship, Brett Lithographing Co., president; Sidney Voice, Consolidated Lithographing Corp., vice-president; Fred Haslag, National Process Co., secretary; and H. Monroe Selling, Zeese-Wilkinson Co., treasurer. Dues were suspended by the group for one year, as a somewhat curtailed program was mapped, because of the inroads cut in the organization's ranks by the military services.

Next meeting is planned for Wednesday, April 14, at the same place.

### Refuse to Boycott Donnelley Plant

The general executive board of the International Brotherhood of Teamsters has refused to permit a sympathy strike of its Chicago members to support efforts which Chicago

printing trades unions are making to organize the R. R. Donnelley & Sons Co., in that city. This was disclosed recently by Dan Tobin, general president of the teamsters, who said the Chicago printers' unions had called on him for help in shutting off Donnelley's supplies.

### Buffalo Craftsmen Hear Porter

The graphic arts industry has two big jobs—to make the largest possible contribution to the winning of the war, and to prepare now to meet the tremendous demands of the nation and of business in the postwar period. This was the message brought to the Buffalo Club of Printing House Craftsmen, March 18 by Harry A. Porter, vice-president of the Harris-Seybold-Potter Co.

Mr. Porter told of the important contributions being made to the war by the graphic arts.

### Detroit Hears Offset Talk

The Detroit Club of Printing House Craftsmen heard a talk on offset platemaking, by E. E. Jones, president of the Graphic Arts Corp., Cleveland, during February. Mr. Jones outlined the various steps and principles in platemaking and discussed various conditions of copy affecting the plates. Following his talk a film on the offset process, produced by the Harris-Seybold-Potter Co., was shown and A. T. Walker of that company explained additional points.

## ABSENTEEISM

(Continued from Page 25)

*semi-fabricated items.* Interruptions in production caused by lack of materials, tools, blueprints, orders and instructions cause absenteeism. To combat this many companies have initiated conservation of materials programs calling for vast amounts of printing in the form of posters, bulletins, placards and stickers. The conservation of materials program in war plants is not new, but most companies are vitally in need of new ideas. As the war continues especially needed are handbooks and

maintenance guides which help the worker prolong the life of the equipment he uses.

Shortages of materials are not always the responsibility of the war plant using them. But nevertheless they are death on employee morale if unexplained. A question frequently asked by labor-management committees is: "How can we urge workers to come in every day without fail when they may be facing a layoff due to shortage of raw materials?" Packard Motor Co., in reply to this, initiated a program whereby each employee was regularly informed through a printed bulletin of impending materials shortages. A further bulletin explained the steps which were being taken to get action by the supplier and assistance from the appropriate government agency responsible for allocating the short material.

2.) *Women workers.* (a) Greater sickness rate. The United States Public Health Service reports that in 1940 the frequency of sicknesses lasting 8 or more consecutive days was 153 per thousand for women as compared with 96 per thousand for men.

(b) Home responsibilities. Many women industrially employed also carry the major part of the burden of running the home, and their actual working hours are thus not indicated by the time card in the factory.

(c) Sickness among other members of the family. Where both husband and wife are working it is the wife who remains at home to provide care.

The press has given the woman in industry plenty of publicity, aimed, of course, at attracting other women into the same kind of work, but it has only played up one aspect. Why wouldn't it be a good idea for a war plant to select each month a "Woman of the Month," or even a "Woman of the Week?" The idea would be to pick a woman worker who has double responsibilities, at home and at the factory, and at the end of a month or week, publishing her record in a lively style which could be circulated among the other workers. It would tend to lift their morale, perhaps make them think twice before taking unnecessary time off. If the



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community is small enough it might even be suggested that the "My Day" record be published in the daily press.

Of course, the need for printed literature for women war workers on the subject of hygiene, diet, proper clothing, sleep, recreation, etc., is obvious. Much has been done in this direction, but the need for new ideas is constant. Has any company yet issued a book in comic vein aimed at instructing the husband whose wife works in common household duties? Has any company thought of the idea of publishing illustrated story books to entertain the children of women workers?

What about puzzles, games, etc., distributed with copies of the plant magazine for the children at home?

*(Space does not permit complete coverage of this subject in this issue. This discussion will be concluded next month—EDITOR.)*

## BOOKS BY OFFSET

*(Continued from Page 18)*

and flexibility in layout and design. "One of the more serious problems of the lithographer in the manufacture of books," Mr. Marsh stated, "still seems to be the depth of his blacks." He said that the tonal value of the printed page is of the greatest importance in book production, and sometimes there is a lack of this uniformity of the color of type pages in books produced by offset. This is the principal problem to be solved by lithographers, he asserted.

In the quiz session which followed, Mr. Eney, who is widely known in the trade through his more than half a century of "trouble-shooting" parried questions from the floor, mostly dealing with the technical aspects of production of books by offset.

Accompanying the display at the galleries was a showing of the various steps in the lithographic process from copy through negatives, flat, press plate and finished reproduction. This was prepared by Crafton Graphic Co. of New York.

The committee in charge of the complete exhibit, besides Mr. Carter who served as chairman, included Walter

E. Soderstrom, National Association of Photo-Lithographers; Alicia P. Yasinski, Macmillan Co.; George Hornby, Thos. Y. Crowell Co.; W. Floyd Maxwell, Lithographers Natl. Assn.; Henry Cole, S. D. Warren Co.; William B. Marsh, Wm. E. Rudge's Sons, Bruce Gentry, H. Wolff Co., Alden W. Craven, Thos. Y. Crowell Co., and David M. Glixon, *Bookbinding and Book Production*.

Sponsors and financial backers of the project included American Type Founders, Harris-Seybold-Potter Co., R. Hoe & Co., Amalgamated Lithographers of America, Lithographers National Association, and National Association of Photo-Lithographers.

The catalogs which accompany the exhibit and describe the various books, were produced by Western Printing & Lithographing Co., at its plant at Poughkeepsie, N. Y.★★

### Canadian Association Elects

At the annual meeting of the Canadian Lithographers Association in Toronto, February 1, George H. Houston of Rolph-Clark-Stone Ltd., Toronto, was elected president of the organization. R. P. Reid, Consolidated Lithograph Manufacturing Co., Montreal, was elected vice president, and Travice A. Tod, was re-appointed secretary-manager. R. B. Johnson is the retiring president. Members of the executive committee, which were elected, included J. S. Miller, W. B. Hanna, and L. H. Jones.

### Benton Heads Red Cross Drive

George W. Benton, western manager for the Lithographers National Association, was placed in charge of the campaign for soliciting contributions from lithographers for the current Red Cross drive in Chicago.

## REPLACEMENT

*(Continued from Page 17)*

Men to be Considered for Replacement" will be listed. It will be noted from an examination of Example A that the Replacement List will include

only single men and married men without children who are within the age groups liable, or who within the next six months will become liable for military service. Those within each plant department or operating unit who are to be replaced in the first month will be listed first, followed by those who are to be replaced in the second month, and so on. Month or period of replacement will be indicated by placing a check mark in the appropriate column opposite each man's name.

When an employer has completed the Replacement Schedule (the forms shown in Example A and B) the original and one duplicate should be sent to the State Director of Selective Service of the state in which his plant is located. If the schedule is approved by the State Director he will notify the employer and will authorize the employer to use this acceptance for certifying the forms 42A and 42B which are filed with the local boards.

**T**HE procedure for filing Form 42A under a Replacement Schedule for consideration of classification by the local board is as follows:

(a) The employer will file a new Form 42A bearing the State Acceptance Number and certification for all men for whom a deferment is requested in accordance with the Replacement Schedule. Forms 42A will be filed direct with the local board in the usual manner.

(b) If it is necessary to file a Form 42A for a man scheduled for replacement in 6 months or less, the employer will indicate the number of days for which deferment is requested. For example, the question on Form 42A "How long will it take you to replace this employee?" will be answered as follows: "60 days"—"90"—"180 days"—etc.

(c) For all men who will be replaced in the second 6-month period, the question on Form 42A, "How long will it take you to replace this employee?" will be answered as follows: "6 months to 12 months."

(d) For all men remaining for whom deferment of more than one year is requested, the question on Form 42A, "How long will it take

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26x40—500—130—160 lb.  
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you to replace this employee?" will be answered as follows: "More than 12 months."

(e) It will not be necessary for the employer to file Form 42A for registrants who have wives and children or who have children. Instead, employers will file form 42B.

The circumstances under which the employer should file Occupational Certification (Form 42B, Revised) and consideration of classification by local boards are as follows:

(a) The employer will file Form 42B for registrants employed by him who have wives and children or who have children. Forms 42B filed by an employer who has an accepted Replacement Schedule in operation should bear the State Acceptance Number and certification.

(b) When a Form 42B has been filed for a registrant, and the local board, upon review at any time, determines that the registrant should be considered for classification into a class available for military service, it will notify the employer by detaching and mailing to him the notice at the bottom of Form 42B. The local board will allow the employer 15 days in which to file Affidavit-Occupational Classification (Form 42 or Form 42A) for such registrant before completing the classification.

Selective Service spokesmen have stated that the filing of these forms will not alter in any way the normal processes for bringing the men's names to the boards' attention for classification.

Manning Tables, which have also received some attention in the trade, provide a more comprehensive picture of a plant's manpower status, but these are for use in the larger establishments and are prepared only at the request of the War Manpower Commission.

**W**HILE the foregoing replacement plans provide for the replacement of men who may be called for military service, they do not answer the question of basic essentiality of the industry or of men in the industry.

For general purposes the Selective

Service System has described a "necessary man" and an "essential activity" for the guidance of local boards. A necessary man must be engaged in an essential activity—an activity which must be filled by a man with the required degree of training, qualification, or skill for the proper performance of the duties involved. Occupations to be essential must be such that, unless they are filled by men with the required degree of training, etc., there will be a serious loss in the effectiveness of the activity. Essential occupations exist only in activities which are necessary to war production or are essential to the support of the war effort. If the activity is neither necessary to war production nor essential to the support of the war effort, then no occupation within that activity can be considered as an essential occupation, and there can be no grounds for occupational classification.

However, not all occupations within these necessary activities can be classified as essential. When an occupation within an activity necessary to war production or essential to the support of the war effort is not in itself an essential occupation, then, in such case, there is provided no grounds for occupational classification.

A test which can be applied to an individual man is that he must be in an essential occupation, and, (1) He is, or but for temporary interruption would be, engaged in such essential activity, (2) He cannot be replaced because of a shortage of persons with his qualifications or skill in such activity, and (3) His removal would cause a serious loss of effectiveness in such activity.

A number of occupational bulletins have been issued to help clarify the question of which industries are essential. One such bulletin, identified as Occupational Bulletin No. 27, listed several lithographic occupations in connection with essential communication services. On March 1, this listing was re-issued jointly by the Selective Service System and War Manpower Commission as Activity and Occupational Bulletin No. 29. This bulletin, however, has given rise

to false beliefs of a blanket essentiality rating for the lithographic industry, when actually it refers only to those in graphic arts crafts directly connected with "Magazines of general circulation which are devoted primarily to the dissemination of public information, newspapers, and news syndicates." And further it states "All printing craft occupations listed under this section are also intended for application to the publication of technical, scientific, and engineering journals and books." Thus, as it has been stated before (*Modern Lithography*, Feb., page 61), a lithographic plant's activity must come within the above limits in order to have its men classified under this bulletin.

As for lithographic plants with a large percentage of work being done either for the government war agencies or for direct war production industries, no clear ruling has been made as to their essentiality. However, representatives of the lithographic industry are working on this phase of the question and may obtain a clarification of the status of these plants and their employees in the near future.

Complete information on the replacement schedules, and on the filing of forms 42, 42A and 42B is available from Selective Service headquarters in any state or from the regional offices of the War Manpower Commission.★★

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## WASHINGTON

(Continued from Page 30)

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essential items, the change in thinking involves changes in setup which will assure the required output.

An important development in the field of packaging came with issuance of P-140, issued to assure equitable distribution of shipping containers for essential requirements. While the industry does not rely to a great extent on wooden containers, shortage in this type of containers has shifted a large demand to fibre board containers, and as a result the shortage in fibre board has become particularly acute.

The importance of the graphic arts

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The War Production Board thru C M P Reg. 5, commencing April 1, 1943, for purposes of maintenance, repair and operating supplies, has granted the Printing Industry an AA-2 X rating, which supersedes the old P-100 A-10 rating.

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MODERN LITHOGRAPHY

industries to the war economy is evidenced by the fact that the order assigns the high rating of AA-5 for the shipping container requirements of the industry. If this rating is not high enough to obtain the containers, application for a higher rating should be made on Form PD-802. In operation, printers need only identify themselves as printers, and they automatically receive the AA-5 rating to obtain fibre containers for their shipping requirements.

While this applies only to the container itself, printers may obtain their steel strapping requirements through application of CMP 5, the regulation under the Controlled Materials Plan which gives an automatic AA-2x rating for repair, maintenance and operating supplies as was reported above. ★ ★

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## COLOR SEPARATION

(Continued from Page 23)

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absorbing all the red light, and the colors would all appear too green. We thus lose the nuances of color variation if we employ filter-sensitivities which are too narrow in scope.

The above discussion permits us to set a standard for the separation filtered-sensitivities. Since, however, this is based on the absorption of the inks it is necessary to standardize them first.

In the ideal ink, the two stimulator colors are still freely transmitted at that density necessary to fully absorb the complementary stimulator. In practice, unfortunately, this is not true of the blue green and magenta inks. When printed with sufficient density to fully absorb the red, most blue green inks also absorb both blue and green. In like manner, most magentas absorb far too much blue when printed with sufficient strength to fully absorb the green.

For effective work, the full strength of the ink should be such as to absorb 99% of the light whose color is that of the stimulator which that ink controls. If the ink absorbs one or both the complementary stimulators at that strength, then the filter-sensi-

tivity must be such that the color so absorbed is recorded in the negative as a parti-density. In this manner the ink will be partly withheld from areas of that color and these will be truly reproduced.

Suppose, then, that a blue green ink at full strength absorbed 25% of the blue light. If our filter sensitivity ignored this, then the corresponding negative would record no densities for the blues of the subject and they would all be darkened by 25%. This would be further aggravated since the magenta would similarly absorb from 25 to 30% of the blue. If, however, the filter sensitivity takes this into consideration, a new complication arises.

We must bear in mind that a white is recorded in our negative by a density proportional to the whole filter-sensitivity. If the filter-sensitivity includes only one stimulation color, then that color at full brightness will be recorded as the same density as white and it will be fully protected from the complementary ink.

On the other hand, if the filter-sensitivity includes part of one of the other stimulation colors, the white density being the sum of both will be proportionately greater than the density from the colors which should be fully protected from the corresponding ink. Therefore, any attempt to correct for the inadequacy of an ink by means of the filter-sensitivities must be made at the expense of clarity in the principal stimulation color which that ink controls.

The ideal solution of this problem is, of course, discovery of more satisfactory inks. Unfortunately there is still far too much confusion in this field. Superior inks frequently find stiff sales resistance principally because their importance has not been understood. Since this whole problem is so closely related to masking, it will be treated later in conjunction with such processes.

THE purpose of the foregoing discussion has been the construction of a basis for setting standards for the determination of the correct filter-sensitivities to be used with a

given set of inks. These can now be summarized as follows:

1. The color sensitivity of the filter - emulsion - illumination combination should closely match the absorption of that stimulation color by the complementary ink.

2. No attempt should be made to correct for inadequacy of the inks by using filter-sensitivities which comprise more than one stimulation color.

3. It is preferable to use narrow band filter-sensitivities depending on the broad reflection characteristics of natural colors for satisfactory reproduction of the intermediates. The narrow band filters assure us of rich clear colors.

4. Although the visual function of the eye receptors is basic to subtractive separation and, as will later be shown, the paramount consideration in the selection of the inks, the filter sensitivity characteristics are determined by the inks alone, once they have been selected.★★

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## WAR WORK

(Continued from Page 28)

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gauge galvanized steel. This makes a practically indestructible base for the image, which should be lacquered for greater permanence.

The printing of ultra-violet fluorescent backgrounds for field maps, aerial navigation maps and topographic maps involves no new techniques for the skilled lithographer. A high-etch plate made by the reverse deep etch method will make it possible to print in the fluorescent background with a water solution of a fluorescent dyestuff such as a selected member of the sulpho-flavine series. Any desired map detail is then printed in by lithography using regular lithographic inks. ★ ★

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### Milwaukee Group Studies Litho

The Milwaukee-Racine Club of Printing House Craftsmen staged a "Lithography Night," April 8, devoting the evening discussion to various phases of the lithographic processes. A number of members of the Milwaukee Litho Club attended.



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# LITHOGRAPHIC ABSTRACTS

Abstracts of important current articles, patents, and books, compiled by the Research Department of the Lithographic Technical Foundation, Inc. These abstracts represent statements made by the authors of articles abstracted, and do not express the opinions of the abstractors or of the Research Department. Mimeographed lists have been prepared of (1) Periodicals Abstracted by the Department of Lithographic Research, and (2) Books of Interest to Lithographers. Either list may be obtained for six cents, or both for ten cents in coin or U. S. stamps. Address the Department of Lithographic Research, University of Cincinnati, Cincinnati, Ohio. Original articles cannot be furnished except as photographic copies at twenty cents per page, plus six cents postage for each four pages or less.

## Photography and Color Correction

**Halftone Screen.** Alexander Murray (to Eastman Kodak Co.). "U. S. Patent" No. 2,311,071 (Feb. 16, 1943). A contact halftone screen comprising elements graded substantially continuously in density from the centers to the corners thereof and a transparent support for the elements, which screen has a diffuse brightness ratio at 45° less than .0002.

**Color Correction by Masking and Other Methods.** Jeffery White. "National Lithographer," 50, No. 2, Feb. 1943, pp. 22, 57. Color correction by masking is not a cure-all. The author has found that local masking yields better results than general masking since the latter tends to reduce contrast. However, whenever it is possible to make separation negatives directly from a subject little or no correction is necessary. The direct method has the following advantages: (1) fast production, (2) low ultimate cost, and (3) sharpest detail and most accurate color rendition. The following are three principal types of cameras used for making direct color separations: (1) the one-shot tri-color camera, (2) the three-shot repeating back, and (3) the regular view or studio camera. Each is discussed.

**Etched Screen and Process for Its Production.** Hermann Eckerlin (vested in the Alien Property Custodian). "U. S. Patent" No. 2,306,869 (Dec. 29, 1942). Etched halftone screen, comprising two glass-plates optically sealed together and provided with etched lines at the adjacent sides, a mirror foil on the ground of the etched lines, these lines being filled with an opaque pigment.

**Densitometer.** Clifton M. Tuttle and

William Bornemann (to Eastman Kodak Company). "U. S. Patent" No. 2,311,101 (Feb. 16, 1943). A densitometer for measuring the diffuse reflection density of a surface, comprising a housing with an opening in one end against which the surface may be held, means in the housing for focusing a cone of light at substantially normal incidence onto the opening with the apex of the cone substantially at the surface, a photoelectric surface carried in the housing and surrounding the light cone at a point spaced from its apex for receiving light diffusely reflected by the surface at angles greater than that of one-half of said cone and means for measuring the response of the photoelectric surface.

## Planographic Printing Surfaces and Plate Preparation

**Lithographic Plate.** William Craig Toland and Ellis Bassist (to William Craig Toland, trustee). "U. S. Patent" No. 2,311,889 (Feb. 23, 1943). As an article of manufacture a lithographic printing plate comprising a base, a layer of a polyvinyl alcohol on the base, a coating of lithographic printing material disposed over the layer, said lithographic printing material adapted to be rendered water-receptive to form the non-printing portions of the plate, and grease-receptive portions adapted to constitute the printing portions of the plate.

**Printing Material.** Ellis Bassist (to William Craig Toland, trustee). "U. S. Patent" No. 2,311,809 (Feb. 23, 1943). In a method of making printing plates for printing multicolor subject matter, the steps which include forming a greasy image of one color on a colloidal printing surface, then offsetting said greasy image on a printing material having a hydrophilic coating and a film of gum arabic on said coating, then applying an aqueous suspension of a colloid and a light-sensitive chromium compound in those parts of the second lithographic printing surface uncovered by the offset greasy image, exposing the second printing member to photographic light, thereby to photographically harden the aqueous suspension of colloid light-sensitive salt, introducing water to the portions of the said hydrophilic coating and gum arabic film covered by the greasy image and washing away the greasy image to leave grease-receptive areas adapted to constitute printing portions of a second color.

**Light-Sensitive Element.** William

Craig Toland and Ellis Bassist (to William Craig Toland, as trustee). "U. S. Patent" No. 2,311,888 (Feb. 23, 1943). As an article of manufacture a light-sensitive element comprising a lithographic printing plate element, a substantially level coating of light-sensitive material superimposed on the lithographic printing element, said light-sensitive material being of a type adapted to be rendered grease-receptive upon exposure to actinic light, a layer of a greasy material overlying the light-sensitive material, said layer of greasy material being translucent with respect to actinic light and substantially uniform in thickness at all points therein.

**Improved Method of Producing Photo-Mechanical Printing Plates.** Herbert Spencer Mills Cartwright, Alfred Haigh, and Frank Herbert Smith. "British Patent" No. 548,716 (June 13, 1941). This invention relates to improvements in the method of producing a printing plate on metal by coating the plate with a photographic emulsion containing a light-sensitive silver halide which can be used to form a gelatine image to serve as an etching resist or to provide means for producing a lithographic printing plate substantially as described in British Patent No. 545,942. It is well known that when a photographic emulsion is coated on certain metallic surfaces a chemical reaction takes place which prevents the formation of a satisfactory image. The previous patent proposed a hardened colloidal substratum such as a suitably light hardened washed bichromated gum. According to the present invention the process comprises chemical treatment of the metal to produce on the surface an adherent deposit consisting essentially of a phosphate or a fluoride or a molybdate of the metal to avoid chemical action between the metal base and the gelatine silver halide emulsion with which the base is afterwards coated. The first treatment consists of bathing the plates or cylinders in solutions of which a number are given. After subsequent coating with suitable gelatine silver halide photographic emulsion the plates are exposed and developed to produce a discontinuous image in gelatine. The specification proposes the use of the new process for relief, planographic, or intaglio processes. ("British Journal of Photography," 90, No. 4317, Jan. 29, 1943, p. 44.)

**An Improved Photo-Lithographic Printing Material.** Printing and Allied Research Association, George Macdougall, Kodak Ltd., Donald

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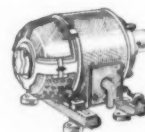
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Charles Gresham, and Raymond Frank William Selman. "British Patent" No. 547,795 (Jan. 1, 1941). This specification concerns a method of preparing a photo-lithographic printing image upon a grained litho metal previously coated with a light-sensitive silver halide gelatine emulsion. A thin film of metallic silver serves as a protective layer between the emulsion and the zinc or aluminum plate. The latent image is hardened during or after development and the unhardened gelatine removed. The metallic base is cleaned, washed with alcohol, and fanned dry. Then a dilute solution of ferric stearate in benzene is applied. The plate is immersed in cold water until the gelatine swells and then a thin film of developing ink is applied and fanned dry. The tanned gelatine is then removed with a 3% solution of sodium hypochlorite for zinc or a 10% solution for aluminum. The plate is then "washed out" and treated with bitumen solution, followed by a roll up with press ink and a gum etch. "British Journal of Photography," 90, No. 4317, Jan. 29, 1943, p. 44.)

**The Depth of Etching of Offset-Deep Lithographic Plates.** G. Macdougall. "Patra Journal," 6, No. 3, Feb. 1943, pp. 48-50 (3 pages). It would seem that longer life could be obtained from deep-etched plates by etching them deeper so that the plate could stand more abrasion before it is worn down so that the image portion is affected. However, if the plates are etched too far, the centers of the dots in halftone work are apt to go blind because the inking rollers cannot reach down into them. The Lithographic Technical Foundation suggests an etching depth of .0003 inch and in the Beka process a depth of .0004 to .0006 inch is recommended.

**Offset Press Questions—Use of Chlorine Solutions.** Henry A. Beechem. "Graphic Arts Monthly," 14, No. 11, Nov. 1942, pp. 40, 42 (2 pages). Calcium or sodium hypochlorite, when used to remove old images from zinc albumin plates, should be cut with water to prevent corrosion of the zinc. A water insoluble coating is left on the zinc which must be removed before re-use by counter-etching with "double strength hydrochloric acid."

### Equipment and Materials

**Printing Press Dampening Roll Control.** George Goebel and Eibe A. Wilckens (to Crown Cork & Seal Company, Inc.). "U. S. Patent" No. 2,310,363 (Feb. 9, 1943). The combination in a printing press of a printing couple, a water fountain, means to transmit water from said water fountain to an element of said printing couple, means to actuate said last-named means including a pair of rods having their ends normally in abutment, means to guide one of said rods for reciprocable movement, the other rod being pivotally

mounted so that it may be swung out of alignment with said first rod, means to limit the swinging movement of said second rod, and sheet controlled means to move said rods from abutting engagement and to restore them to such engagement.

### Paper and Ink

**Relation of Ink to Paper.** Herbert J. Wolfe. "American Ink Maker," 21, No. 2, Feb. 1943, pp. 21-3 (3 pages). The best ink and paper, if not suited to each other, will give poor results. Ink is a mixture of pigments, extenders, varnishes, oils, and metallic driers. Sometimes waxy or greasy compounds are also added. The function of each is explained. Viscosity and yield value are the physical properties of ink which most influence its printing characteristics. The more absorbent the stock and the higher the printing speed, the less viscous the ink must be made. The general rule of the ink maker is to make his inks of as high viscosity and yield value as is consistent with the paper to be printed and the speed of the press it is to be run on. The following are the characteristics of paper which most influence its printing properties: (1) smoothness of surface, (2) absorbency, (3) ink-receptivity, or ink wettability of the surface, (4) hardness or resistance to picking, (5) evenness of formation and evenness of caliper, and (6) resilience of the stock. Each is briefly discussed.

**Crystallization.** Ronald J. McEachen. "Printing Equipment Engineer," 65, No. 5, Feb. 1943, pp. 23, 24, 26 (3 pages). Crystallization is caused by the first ink film applied drying to a hard continuous film which lacks the absorbency necessary to bind the next color. The drying properties of linseed oil, the oxidation and polymerization mechanisms, and the accelerating effect of certain metals, are explained. Methods of overcoming crystallization are discussed. Lead and manganese drier should be used instead of cobalt drier with inks which tend to crystallize. The addition of a non-drying product such as wool grease may help prevent crystallization if the ink is not being printed on non-absorbent stock. The best method, however, is to use a vehicle containing a non-drying oil and resin in addition to the drying oil. If complete data and a sample of the stock to be used are given to the ink maker, he can formulate the proper inks. Certain adjustments which the pressman may have to make are listed. A test for wax or grease float is described.

**Printing Ink.** Donald Robert Erickson and Paul J. Thoma (to Michigan Research Laboratories, Inc.). "U. S. Patent" No. 2,289,638 (July 14, 1942). A non-offsetting printing ink comprising a varnish comprising a liquid polyglycol as a solvent for the resin, and a resin comprising a terpene

hydrocarbon of the formula  $C_{10}H_{16}$  modified with an alpha beta unsaturated organic polybasic acid and having a high acid number and in sufficient amount to form, when subjected to steam immediately after printing, a thin hard film of resin over the exposed surfaces of the printed film, and pigment insoluble in water and in said polyglycol.

**Antiskinning and Weather Resisting Agent for Drying Oil Compositions.** Harold C. Reynolds, Jr. (to Standard Oil Development Company). "U. S. Patent" No. 2,287,946 (June 30, 1942). A coating composition containing a drying oil, a positive oxidation catalyst and, as a negative oxidation catalyst, a hydrocarbon substituted carbamionitrile in sufficient quantity to substantially prevent oxidation of the composition in the packaged state without materially retarding the normal drying rate of the composition when exposed in a thin film state to the normal atmosphere.

### General

**Offset Press Questions—Impurities in Water.** Henry A. Beechem. "Graphic Arts Monthly," 15, No. 2, Feb. 1943, pp. 38, 40 (2 pages). The amount and kinds of impurities in water may vary greatly from place to place. Some impurities interfere with the working properties of lithographic and photographic solutions, and formulas should be changed to compensate for them. Distilled water gives the best results.

**Offset Press Operation—Offset Blankets.** Lawrence J. Grennan. "Modern Lithography," 11, No. 2, Feb. 1943, pp. 45-6 (2 pages). Mr. Grennan claims that better distribution of tension on an offset blanket is obtained if the rows of holes at the ends of the blanket are punched along lines slightly concave to each other, rather than in straight lines. Pressure between plate and blanket cylinder bearers should be checked by spreading ink on the plate cylinder bearers, and checking the contact, with the blanket packed so that it does not touch the plate. The bearers should ride with .002" squeeze. The blanket should then be built up just until a solid print can be obtained. Swelling or embossing of a blanket is most generally caused by oily or greasy compounds in the ink. Blankets should be cleaned occasionally with good blanket wash. Chlorinated solvents constitute a health hazard. Rubber rollers or blankets perform best when cleaned with a highly volatile hydrocarbon such as gasoline or D. C. naphtha.

**Offset Press Operation—Rollers.** G. A. Vasel. "Modern Lithography," 11, No. 2, Feb. 1943, p. 47. If ink and dampening rollers are given the proper attention, not only will the life of the rollers be prolonged, but also

(Continued on Page 69)

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 243 W. 13th St., Fort Worth, Texas

Our biggest job now  
 is to hasten Victory  
**BUY WAR BONDS**  
**NOW**

★ ★ ★

YOURS FOR SOUND BUSINESS... BEFORE AND AFTER VICTORY

**G. GRAMER DRY PLATE COMPANY**  
 NEW YORK ST. LOUIS CHICAGO

**OFFSET  
 PLATES**

NELSON ASSOCIATES IS EXPERIENCED IN HANDLING EVERY TYPE OF PREPARATORY WORK ON TECHNICAL MANUALS FOR THE ARMED FORCES . . . RETOUCHING, PHOTOGRAPHY, CREATIVE WRITING, TYPEWRITTEN COMPOSITION, NEGATIVES AND OFFSET PLATES.

THE  
**NELSON  
 WAY**

COMPLETE TRADE SERVICE FACILITIES  
 Overnight Airmail Service to Most Parts of the Country

**NELSON ASSOCIATES Inc.**  
 1959 E. JEFFERSON AVENUE, DETROIT, MICH.

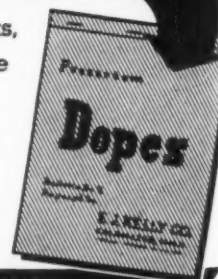
*Free!* **EVERY PRESSMAN  
 WANTS THIS BOOKLET**

Helpful hints about handling inks, compounds, driers, etc. Valuable information prepared by experts. Write for it on your firm letterhead.

It's FREE!

**E. J. KELLY CO.**

1829 N. Pitcher St. Kalamazoo, Michigan



## CLASSIFIED

All classified advertisements will be charged for at the rate of ten cents per word, \$2.00 minimum, except those of individuals seeking employment, where the rate is five cents per word, \$1.00 minimum. Address all replies to Classified Advertisements with Box Number, care of Modern Lithography, 254 W. 31st St., New York. Closing date: 1st of month.

### Situation Wanted:

Ambitious young man — 27 — 4F — high school graduate, anxious to learn offset plate making. Familiar with theory. Address Box #854, c/o MODERN LITHOGRAPHY.

### Position Open:

Lithographic layout man. Must be accurate. Top wages, excellent future. State qualifications and wages expected. Nelson Associates, Inc., 1959 E. Jefferson Avenue, Detroit, Mich.

### Position Open:

Printing Production Man schedule work through small litho plant. Customer contracts, order writing, buying. Give draft status, references. Greenwood Co., 49 Sheridan Ave., Albany, New York.

### Wanted:

Step-and-Repeat machine offset plate-maker with full knowledge of making combination label layouts. State salary and full experience. Good opportunity in modern, air-conditioned plant located in the Middle-West. Address Box #856, c/o MODERN LITHOGRAPHY.

### Help Wanted:

Old established paper mill, manufacturing offset papers, wants representatives to call on lithographers. State qualifications and territory covered. Address Box #857, c/o MODERN LITHOGRAPHY.

### Help Wanted:

Offset man to take charge. Webendorfer, Multilith, plate-making, no camera. \$58 week. Steady position. Fine equipment. General Printing Co., 17 W. Lawrence St., Pontiac, Michigan.

### For Sale on a Cash Basis:

1 Harris Offset Press 22 x 34 with control panel and motor .....	\$1985
1 Fuchs and Lange Plate Grainer .....	325
1 Baum Folder 21 x 28.....	25
1 Morrison Stitcher.....	50
1 Wright Perforator 30 inches	275
1 19 inch Levy Circular Screen 133 line.....	390
1 Pair of Macbeth Arc Lamps with Control.....	100
200 Zinc Plates 25½ x 36... .	.25 ea.
1 Opaquing table without glass top.....	25
1 large bindery table. 6 x 8 feet .....	50
Misc., chemicals, paper and ink.	

Address Box No. 359, c/o MODERN LITHOGRAPHY.

### Wanted:

Used LSN 21 x 28" or EL 22 x 34" Harris Offset press in good condition. Address Box #855, c/o MODERN LITHOGRAPHY.

### For Sale:

Webendorfer Model M press, serial #278, perfect running shape. Federal Letter Company, 8 East 12th St., New York City.

### Miscellaneous:

"Alumin-Off" removes images from aluminum, Offset or Multilith plates. Saves regraining. Use same plates over and over again. Can be used on all aluminum plates from any kind of duplicating machine. Graphic Arts Laboratories, P. O. Box 365, Hamilton, Ohio.

### For Rent or Sale:

Offset Department of letter press plant may be leased with option to buy. MAC Webendorfer and complete camera and plate making equipment. Opportunity for camera-plate man and pressman to establish own business. Can furnish more than

enough work to meet monthly payments. Small Northern New England city. Address Box #858, c/o MODERN LITHOGRAPHY.

### Miscellaneous

Will pay cash for 35 x 45" single-color LSC or LSS Harris offset press with AC electrical equipment. Address Box #853, c/o MODERN LITHOGRAPHY.

### Miscellaneous

"Litho-Pencils"—will save time, zinc and money. Make corrections and additions without danger of damaging press plates. Sent on ten day free trial. Price fifty cents. N. C. Sorensen, 3540 the Paseo, Kansas City, Mo.

### Dexter Receives "E"

Dexter Folder Co., Pearl River, N. Y., manufacturer of printing and binding equipment, was awarded the Army-Navy "E" award for an outstanding record in war production in ceremonies March 23. Army and Navy officers were present to make the awards, and acceptances for the company were by James S. Gilbert, chairman of the board; Edward R. Kast, vice-president; Leonard Baker, chief engineer, and George Begeman, representing Dexter employees. It was also announced that to date 70 Dexter men are serving in the armed forces.

### Plan Regional Conference

The National Graphic Arts Association plans a regional conference Saturday, May 1, at Rochester, N. Y.

## LITHO ABSTRACTS

(Continued from Page 67)

the life of the plate. The setting of a roller, its hardness, and the temperature at which it is used are all important. A new adhesive-backed covering for dampening rollers, which is cut to size and can be placed on the roller like a porous plaster, is mentioned.

**Shop Talk.** I. H. Sayre. "Modern Lithography," 11, No. 2, Feb. 1943, pp. 37, 39 (2 pages).

**Ten Commandments for Offset Press Operation.** Charles F. Geese. "National Lithographer," 50, No. 2, Feb. 1943, p. 20. The following set of basic rules are given: "(1) Never have more than .003 pressure between



# AGSCO

PLATE  
GRAINING  
SUPPLIES

STANDARD FOR THE INDUSTRY FOR MORE THAN FORTY YEARS



**American Graded Sand Company**

2516-18 Greenview Avenue

Chicago, Illinois

## NUTRAN PRODUCTS

**Tailor-Made for your Needs**

Neutral grey retouching dye which penetrates easily into emulsions is fast to light and never changes color. Artists in photo offset and roto gravure concerns use it to their entire satisfaction. This dye also used for spotting paper prints because of its absolutely neutral shade. Write for descriptive literature on this and other products.

GRAPHIC PROCESS & PRODUCTS CORP.  
11 WEST 42nd STREET NEW YORK, N. Y.

## MULTILITH OWNERS!

**New Zinc Plates — 10 X 15 1/2**

New, marble grained, fit perfectly without attachments. Priced as low as 32c per plate in lots of 100. 5% discount for 1000 or more. Ready for immediate shipment. Order by mail at once.

Also rubber blankets and plates for all other sizes of small offset machines.

**ACME LITHO PLATE GRAINING, Inc.**  
46 Great Jones St. New York, N. Y.

## STANDARDIZE ON MECHANO FORM LEDGER and INDEX

Made especially for forms  
that must be preserved.

ASK YOUR PAPER MERCHANT FOR SAMPLE BOOK

PARSONS PAPER CO. HOLYOKE, MASS.

## We Cover the West Coast FOR PLATEMAKING EQUIPMENT FILMS AND CHEMICALS

PHOTO PROCESS DEPARTMENT

**THE CALIFORNIA INK CO., Inc.**

SAN FRANCISCO LOS ANGELES PORTLAND SEATTLE  
SALT LAKE CITY SHANGHAI, CHINA

LITHO  
PLATES

## ZINC and ALUMINUM PLATES UNGRAINED—GRAINED—REGRAINED

grained correctly to your specifications  
... for your special requirements.  
We are manufacturers of METAL-  
SHEETS for ROTAPRINT Machines,  
also square edge plates for  
Multilith Presses.

**THE PHOTO LITHO PLATE  
GRAINING COMPANY**

1207-15 S. Highland Ave.

BALTIMORE, MD.

Color process plates, black and whites, highlights, originals for hand transfer, line and halftone color plates, line and halftone negatives or positives for machine transfer, or photo-composed press plates, albumen or deep etch. WRITE - WIRE - PHONE TOLEDO - NEW YORK - CHICAGO - DETROIT

*Graphic Arts Corporation*  
OF OHIO

MODERN LITHOGRAPHY

plate and blanket cylinders. (2) Form rollers must be in contact with steel rider evenly 100% of the time. (3) Form rollers must touch plate, but not bounce up and down. (4) Cylinder bearers must be set even on both sides with .004 pressure—no more, no less. (5) Keep dampeners clean and set in perfect contact with brass roller and plate. (6) know your chemistry (this rule applies to all reaction that may take place with the etches used). (7) If you do not know mechanical procedures, learn as soon as possible. A good pressman must be good mechanically. (8) Study ink consistencies and their relationship to correct transferring from blanket to paper. (9) Insist on a well lubricated press. (10) Work clean. Sloppy methods produce careless results."

**Back to Fundamentals.** Anonymous. "National Lithographer," 50, No. 2, Feb. 1943, p. 17. Advice is offered to beginners in lithography. For the cameraman, cleanliness is one of the most important factors. The method of preparing a hand plate is explained for photolithographic plate makers so as to give them an insight into the fundamentals of lithography. They are reminded that the plate is grease-receptive from the time it is counter-etched until it is thoroughly desensitized. Anything greasy applied to the plate during this time, including finger prints, will hold to the plate, take ink, and print on the press. Pressmen should be truly interested in their work and should find out the function of each part on the press.

#### Miscellaneous

**Process for Producing Accurate Replicas and Product.** Miller Reese Hutchinson (to Mock-Up, Inc.). "U. S. Patent" No. 2,311,547 (Feb. 16, 1943). A process for producing templates.

**Industrial Dermatitis.** H. Stanley Redgrove. "Soap, Perfumery and Cosmetics," 15, 600-2 (1942) (3 pages). No skins are resistant to caustic acids and alkalis and mustard gas but different skins differ in their degree of resistance. Some people are sensitive to apparently innocuous materials like water and carrots. Occupational dermatitis may be caused by the use of harsh detergents rather than to the materials handled during work; hence a great deal of industrial dermatitis can be prevented by use of protective creams to which dirt will adhere and which can be easily removed by washing with warm water and soap.

**Improvements in Transfers.** F. W. Burgess and Trapinex, Ltd. ("British Patent" No. 547,312. This patent is identified with the production of transfers, which are prints on sheets of specially coated paper, chiefly of a gummed nature, so that when the sheet is heated or moistened the printed transfer may be separated from the transfer sheet and made to adhere to some other surface.

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"Don't get discouraged, Cuthbert. You'll do much better after a few more jumps!"

## ...back to earth!

**W**HEN your business comes "back to earth" after the war, what kind of a landing will it make? Will it be prepared to face the sharp realities of a post-war world, — or will it be unprepared and hit with a thud? Regular advertising *now* should help to soften the landing then, — help to smooth over the change when it comes, — help to keep your customers, both old and new, remembering who you are and what you sell.

If you want to avoid as much as possible the effects of those post-war "sharp realities," particularly in the field of lithography, we recommend highly regular advertising *now* in

**MODERN LITHOGRAPHY**  
254 WEST 31st STREET NEW YORK

Member Audit Bureau of Circulations

## TALE ENDS

**W**E HAVE just received two decks of playing cards from the B. G. Lithographic Co., Georgetown, British Guiana, lithographed by that "Good Neighbor" firm. Thanks, B. G., maybe after we get this issue to press we'll have time for a game.

★

We can't help wondering what lithographer will get the first order for a 24-sheet poster for the new Alaska-Canada highway. We think the soldiers traveling those cold, rugged, weary miles might welcome a poster now and then.

★

Quite some attention has been given to "Lady Lithographers." Now we have word of a girl who grinds off-set press rollers at the Garwood, N. J. plant of Bingham Bros. Co. where William Brittingham is manager. The roller grinder is Alicia Mulroy. The firm itself has Edna L. Travers as its head, so that the feminine touch is not entirely new.

★

Stamp collectors' columns in the press have been featuring rumors concerning a new series of postage stamps said to be planned by the Post Office Department to honor the nations overrun by the Axis. While official confirmation is lacking, reports are that the new issue will be bi-colored or, possibly, tri-colored and that the stamps will be produced by a large Chicago lithographic house. If the stamps are lithographed, it is pointed out, this will be the first occasion in many years that this process has been employed for this purpose.

★

Bet you know all about the war strategy now being employed on all fronts. Isn't it also important to you to know what's going on in your own industry? Best way is to get your own personal copy of ML every month. We repeat—an informed man is a more valuable man. Send in your order today.

**MODERN LITHOGRAPHY**



# WHY PUT OFF UNTIL TOMORROW THAT WHICH YOU CAN DO TODAY?

Procrastination is not an unusual habit of mankind — yet because of it opportunity suffers.



*Laboratory tested, packaged, ready-to-use  
platemaking chemicals are available now!*

Our technicians are at your service for demonstrations. Let them make a plate for you now and in your own plant ready for your press. — No expense and no waste of your time.

*Get in touch with our nearest branch NOW!*

## Sinclair and Valentine Co.



**Sinclair and Valentine Co.** Main Office and Factory: 611 West 129th Street, New York City

**Branches:**

Albany	Boston	Cleveland	Detroit	Kansas City	Miami	New Orleans
Baltimore	Charlotte	Dallas	Havana	Los Angeles	Nashville	Philadelphia
Birmingham	Chicago	Dayton	Jacksonville	Seattle	New Haven	San Francisco

# School and Press

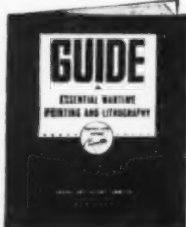
# makers of America



Plymouth Colony was scarcely settled in 1620 before children met in the "Dame" school using birchbark and charcoal to copy A B C's traced in sand upon the floor. It was the dawn of education, the infancy of a tremendous readership destined to influence the world. Later, as little Red School-houses dotted the landscape, it became clear that the heart of America could be swayed by the printed page. And so the editor-printer became a Nation-builder, meeting the needs

of a growing country, and printing in its various forms became a vehicle of progress and salesmanship. Today's printing needs are more complex than ever. But the printer, alive to conditions and faithful to his tradition of whole-hearted service, has stepped promptly into the picture offering the power of the printed message as a means of creating group interest and assuring united action. Such help will solve many of today's problems.

*NOW AVAILABLE. Complete and comprehensive Guide Book of Essential Wartime Printing and Lithography. 64 pages (8 1/2" x 11") of detailed description and information on every government*



*public relations problem which can be aided by printed promotion. We shall be glad to obtain a copy for you . . . or write direct to Graphic Arts Victory Committee, 17 East 42nd St., New York City.*

## HARRIS • SEYBOLD • POTTER • COMPANY

### HARRIS DIVISION

CLEVELAND, OHIO

MANUFACTURERS OF OFFSET LITHOGRAPHIC • LETTERPRESS  
AND GRAVURE PRINTING MACHINERY . . . . .

### SEYBOLD DIVISION

DAYTON, OHIO

MANUFACTURERS OF PAPER CUTTERS AND TRIMMERS • KNIFE  
GRINDERS • DIE PRESSES • WRIGHT DRILLS • MORRISON STITCHER